ANADARKO PETROLEUM CORPORATION

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Anadarko

May 13, 2005

Mr. Donald C. Howard, Regional Supervisor Field Operations
Minerals Management Service
Gulf of Mexico OCS Region
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123

Attention: Mr. Alex Alvarado
MS 5232

RE: Application for a dual diameter 8-Inch/10-inch Bulk Gas Right-of-Way Pipeline (Jubilee/Vortex/Cheyenne 8/10" East Flowline) and associated electric/hydraulic umbilical to be installed in the Lloyd Ridge, Atwater Valley and Mississippi Canyon Areas, OCS Federal Waters, initiating in Lloyd Ridge Area Block 399 and terminating in Mississippi Canyon Area Block 920 at a proposed Floating Production Platform (Independence Hub), Gulf of Mexico, Federal Waters.

Gentlemen,

Pursuant to the authority granted Section 5 (e) the Outer Continental Shelf Lands Act (67 Stat. 462)(43 U.S.C. 1331), as amended (92 Sta. 629), and in compliance with the regulations contained in Title 30 CFR Part 250 Subpart J, Anadarko Petroleum Corporation (Anadarko) is filing this application, in quadruplicate (original and three copies), for a Right-of-Way two hundred feet (200') in width for the construction, maintenance and operation of a dual diameter 10/8-inch bulk gas pipeline to be installed in and/or through Lloyd Ridge Area Blocks 399, 398, 354, and 353; Atwater Valley Area Blocks 393, 349, 305, 261, 217, 173, 129, 128, 84, 40, and 39; Mississippi Canyon Area Blocks 1007, 963, 964, and 920, OCS Federal Waters, Gulf of Mexico. Anadarko agrees that said Right-of-Way, if approved, will be subject to the terms and conditions of said regulations. The associated electric/hydraulic umbilical will be installed in and/or through Lloyd Ridge Area Blocks 399, 398, 354, 353 and 309; Atwater Valley Area Blocks 349, 305, 261, 217, 173, 129, 85, 41 and 40; Mississippi Canyon Area Blocks 1008, 964, and 920, OCS Federal Waters, Gulf of Mexico.

The bulk gas pipeline, which is approximately 44.84 miles or 236,767 feet long, will be utilized to transport bulk gas production from a subsea Pipeline End Termination sled, located in LL-399 to the proposed floating production platform located in MC-920. The electric/hydraulic umbilical, which is approximately 41.89 miles or 221,164 feet long, will be utilized to provide electric and hydraulic control as well as methanol and chemical injection to subsea wells from the proposed floating production platform located in MC-920. The umbilical consists of two sections, namely the Cheyenne umbilical (12.89 miles) and the Jubilee umbilical (29.00 miles).

Anadarko will be the designated operator of the subject Right-of-Way bulk gas pipeline. The proposed pipeline will be designed, constructed operated and maintained in accordance with Title 30 CFR Part 250. The pipeline is to be located in a maximum water depth of 8,961 feet and a minimum water depth of

7913 feet. Since the entire pipeline is in water depths in excess of 200 feet, the pipeline will be installed without burial below the seabed.

Installation of the proposed bulk gas pipeline and associated electric/hydraulic umbilical will be accomplished by utilizing a Dynamically Positioned (DP) lay vessel and will not require the use of anchors for positioning. The estimated project duration is a total of 30 days commencing with pipeline installation around November 1, 2005 (21 days), followed by installation of the Steel Catenary Riser (SCR) installation around August 1, 2006 and installation of the umbilical around August 15, 2006. Startup is expected around July 1, 2007.

The operations base for Anadarko is located in Houma, Louisiana. During construction for this project, the base of operations will be Fourchon, Louisiana.

The proposed pipeline crosses nineteen (19) Lloyd Ridge, Atwater Valley and Mississippi Canyon blocks (Lloyd Ridge Area Blocks 399, 398, 354, and 353; Atwater Valley Area Blocks 393, 349, 305, 261, 217, 173, 129, 128, 84, 40, and 39; Mississippi Canyon Area Blocks 1007, 963, 964, and 920). The proposed umbilical crosses seventeen (17) Lloyd Ridge, Atwater Valley and Mississippi Canyon blocks (Lloyd Ridge Area Blocks 399, 398, 354, 353 and 309; Atwater Valley Area Blocks 349, 305, 261, 217, 173, 129, 85, 41 and 40; Mississippi Canyon Area Blocks 1008, 964, and 920). Neither the pipeline nor the umbilical cross any pipelines. In accordance with applicable regulations, Anadarko has forwarded a copy of this proposed pipeline application by Certified Mail, Return Receipt Requested, to each designated Oil and Gas Lease Operator whose lease is so affected. Copies of these letters and copies of the unsigned requested Return Receipt are attached for reference. A list of Designated Operators and Right-of-Way or Easement Holders is also attached. Copies of the Return Receipts showing dates and signatures as evidence of service upon such Operators and Right-of-Way or Easement Holders will be forwarded to your office upon receipt. In the event Anadarko cannot obtain completed return receipt cards, we understand that a letter from the Lessee expressing no objection to the proposed project is acceptable. In order to expedite the permit process, Anadarko has requested a letter from the Operator expressing no objection to the proposed project. When obtained, these letters will be forwarded to your office.

The proposed route of the Right-of-Way does not adjoin or subsequently cross state-submerged lands.

Anadarko hereby certifies that the proposed activity described in this application complies with and will be conducted in a manner consistent with the Coastal Management Program for the affected states (Louisiana and Florida). A copy of the letter and consistency certifications are attached for your review. C&C Technologies conducted a pipeline Pre-Lay Survey and Hazards Study for the proposed Operations. The survey report prepared by C&C Technologies, and submitted with this application, identifies side-scan sonar contacts within the surveyed area. The coordinates of the side scan sonar contacts will be recorded into the installation vessels on-board navigation and position system and avoided during pipelay. Anadarko has reviewed the hazard survey and will comply with all recommendations found therein.

This pipeline will be inspected after installation on the seabed, by use of a Remote Operated Vehicle (ROV), to determine if any spanning has occurred. Any excessive spanning will be rectified by installing adequate supports or Vortex Induced Vibration (VIV) suppression. The location of any spans will be identified, reported, and records maintained in Anadarko's as-built construction report.

If any site, structure or object of historical or archaeological significance should be discovered during the conduct of any operations within the permitted Right-of-Way, Anadarko shall report such findings immediately, to the Director, Gulf of Mexico OCS Region, and make every reasonable effort to preserve and protect the cultural resources from damage until the Director has given directions as to its preservation.

The calculated worst-case discharge for the proposed Right-of-Way Oil Pipeline is less than 1,000 barrels. Worst-case Oil Spill calculations are included.

Please refer to Anadarko's New Orleans Miscellaneous File No. 981 for a copy of a resolution approved by the Board of Directors authorizing the undersigned to sign for and on behalf of Anadarko. Additionally, Anadarko has an approved $300,000 Right-of-Way Grant Bond (Bond No. 945480) on file with the MMS, covering installation of right-of-way pipelines in Federal Waters, Gulf of Mexico.

Applicant agrees to be bound by the foregoing regulations, and further agrees to comply with the application stipulations as set forth in Title 30 CFR 250 (Subpart J).

Anadarko requests the following departures:

1. Anadarko hereby requests a waiver from NTL 98-20, Section IV.B, which requires the buoying of all existing pipeline(s) and other potential hazards located within 150 meters (490 feet) of the proposed operations. Utilizing the on-board graphic system during construction operations, Anadarko will comply with the recommended avoidance criteria of any magnetic anomalies found in the Pipeline Pre-Lay Survey Report along the proposed pipeline route.

2. The American National Standards Institute (ANSI) B31.8 design code and 30 CFR 250 will be used in setting the internal design pressure for the steel pipe used in the pipeline and riser. Where ANSI B31.8 does not provide specific guidance, a limit state design philosophy will be adopted. API RP 1111 will be referred to for external pressure collapse calculations, as B31.8 does not adequately address these for deepwater applications. For this reason, Anadarko hereby requests approval for the utilization of API RP 1111 for the design against collapse of the pipeline due to external hydrostatic pressure. Pertinent calculations are included for reference.

3. Anadarko hereby requests a waiver from recording magnetometer data as part of the shallow hazards survey in water depths beyond 600 feet.

In support of our application and for your review and use, the following exhibits have been enclosed herewith and made a part hereof:

1. Attachment A - List of Lease Operators and Right-of-Way Holders
2. Attachment B - Pipeline Design Criteria
3. Attachment C - Signed copies of Nondiscrimination in Employment statement (one original and 3 copies)
4. General Permit Information:
    a. Attachment D - Vicinity Layout
    b. Attachment E - Route and Profile Maps
    c. Attachment F - Safety Flow Schematic

d. Attachment G – Steel Catenary Riser at MC-920
e. Attachment H – Umbilical Data Sheets

5. Attachment I - Copies of Lease and Pipeline crossing "Request for No Objection" letters and requested Return Receipts.
6. Attachments J – Copies of the affected states Consistency Certification and letter of request for determinations.
7. Enclosure 1 – MMS Checklist.
8. Enclosure 2 - Check in the amount of $5,725.00 of which $2,350.00 covers the application fee and $3,375.00 ($675/year) covers the first five (5) year's rental payment on 44.84 miles of Right-of-Way.
9. Enclosure 3 - High Resolution Geophysical Survey Report (plus one diskette with ASCII file for the flowline and umbilical route prepared by C&C Technologies

Anadarko hereby agrees to keep open at all reasonable times for inspection by the Minerals Management Service, the area covered by this Right-of-Way and all improvements, structures, and fixtures thereon and all records relative to the design, construction, operation, maintenance and repairs, or investigations on or with regard to such area.

Contacts on technical points or other information should be directed to:

Susan Hathcock
Anadarko Petroleum Corporation
P. O. Box 1330
Houston, TX 77251-1330
(832) 636-8758
susan_hathcock@anadarko.com

Your efforts to approve the installation of the subject pipeline in a timely fashion would be most appreciated.

Very truly yours,

Charles G. Hughes
Agent & Attorney-in-Fact

Attachments and Enclosures

MMS PERMIT APPLICATION

ATTACHMENT A
LIST OF LEASE OPERATORS AND RIGHT OF WAY HOLDERS
ANADARKO PETROLEUM CORPORATION
8/10-INCH BULK GAS PIPELINE (JVC EAST) AND UMBILICAL
LLOYD RIDGE AREA BLOCK 399 TO MISSISSIPPI CANYON AREA BLOCK 920 PROPOSED PLATFORM

A. Lease Operators

8/10" Bulk Gas Pipeline

The following lease operators are being notified of the proposed pipeline route in accordance with the "No Objection" requirements:

BLOCK	LEASE	LEASE HOLDER
LL - 399	OCS-G-23480	Anadarko Petroleum Corporation
LL - 398		Open
LL - 354	OCS-G-23476	Anadarko Petroleum Corporation
LL - 353		Open
AT - 393		Open
AT - 349	OCS-G-18577	Anadarko Petroleum Corporation
AT - 305	OCS-G-18556	Anadarko Petroleum Corporation
AT - 261	OCS-G-16890	BHP Billiton Petroleum (GOM) Inc.
AT - 217	OCS-G-16879	BHP Billiton Petroleum (GOM) Inc.
AT - 173		Open
AT - 129	OCS-G-20137	Nexen Petroleum U.S.A. Inc.
AT - 128	OCS-G-18501	Nexen Petroleum U.S.A. Inc.
AT - 84	OCS-G-16859	BHP Billiton Petroleum (GOM) Inc.
AT - 40	OCS-G-20131	Woodside Energy (USA) Inc.
AT - 39	OCS-G-24211	Devon Louisiana Corporation
MC -1007	OCS-G-20016	Devon Louisiana Corporation
MC - 963		Open
MC - 964		Open
MC - 920		Open

Electric/Hydraulic Umbilical

The following lease operators are being notified of the proposed umbilical route in accordance with the "No Objection" requirements:

BLOCK	LEASE	LEASE HOLDER
LL - 399	OCS-G-23480	Anadarko Petroleum Corporation
LL - 398		Open
LL - 354	OCS-G-23476	Anadarko Petroleum Corporation
LL - 353		Open
LL - 309	OCS-G-23473	Anadarko Petroleum Corporation
AT - 349	OCS-G-18577	Anadarko Petroleum Corporation
AT - 305	OCS-G-18556	Anadarko Petroleum Corporation
AT - 261	OCS-G-16890	BHP Billiton Petroleum (GOM) Inc.
AT - 217	OCS-G-16879	BHP Billiton Petroleum (GOM) Inc.
AT - 173		Open
AT - 129	OCS-G-20137	Nexen Petroleum U.S.A. Inc.
AT - 85		Open
AT - 41		Open
AT - 40	OCS-G-20131	Woodside Energy (USA) Inc.
MC -1008	OCS-G-20017	Woodside Energy (USA) Inc.
MC - 964		Open
MC - 920		Open

B. Pipeline Operators

The following pipeline operators are being notified of the proposed pipeline route in accordance with the "No Objection" requirements:

ROW HOLDER	PIPELINE SIZE/PRODUCT	OCS ROW NO.	SEG. NO.	AREA/BLOCK
None				

MMS PERMIT APPLICATION

ATTACHMENT B
PIPELINE DESIGN CRITERIA
ANADARKO PETROLEUM CORPORATION
8/10-INCH BULK GAS PIPELINE (JVC EAST) AND UMBILICAL
LLOYD RIDGE AREA BLOCK 399 TO MISSISSIPPI CANYON AREA BLOCK 920 PROPOSED PLATFORM

A. INTRODUCTION

This proposed dual diameter 8-inch and 10-inch bulk gas pipeline will be utilized to transport production from the Cheyenne, Jubilee and Vortex Fields located in the Lloyd Ridge and Atwater Valley Areas, Gulf of Mexico. This pipeline will be part of an overall gathering system for these fields, as part of the Independence Project, and is shown on the attached Safety Flow Schematic.

B. DESIGN INFORMATION

Design of the flowline system will be in accordance with 30 CFR 250. The maximum wellhead Shut-in Tubing Pressure(SITP) of any source for this pipeline is 8100 psig. When applicable, the effects of external pressure in the design are considered.

1. Product to be transported: Bulk Gas

2. Pipeline and Riser Specifications:

PARAMETER	PIPELINE 8-inch Section	PIPELINE 10-inch Section	STEEL CATENARY RISER (SCR) AT MC - 920
Water Depth Range (ft)	8961 to 8634	8634 to 7913	0 - 7913
Length (ft)	77,574 note 1	150,153 note 1	14,000 (9000 ft. Horiz. Proj.) note 1
Outside Diameter (in)	8.625	10.75	10.75
Wall Thickness (in)	0.675	0.862	1.180
Buckle Arrestors (in)	0.812	1.000	
Material	API 5L	API 5L	API 5L
Grade	X-65	X-65	X-65

Notes: 1. Total Right of way length is 236,479 ft.

3. Type of Cathodic Protection:

   a. Sacrificial Anode System (480 foot spacing)
   b. Type of Anode: Aluminum-Indium-Zinc Alloy
   c. Two (2) additional anodes will be placed at each end of the pipeline and at each pipeline crossing.
   d. Unit weight of anode: 72.7 lbs. for 8.625-inch diameter pipeline
      91.8 lbs. for 10.75-inch diameter pipeline
   e. Platform anodes will not be used to protect the pipeline.
   f. Pipeline anode life: 20 years minimum.

   Based on the formula: $Le_{(p/1)} = 3.82 \times 10^4 \times w^o/DIR$

   Where:

$Le_{(p/1)}$ = Life expectancy (years)
w^o = Weight of anode unit (lbs)
D = Diameter of pipe (inches)
I = Separation between anodes (ft)
R = Rate of consumption (lbs/amp year)= 7.42 lbs/amp year

8.625-inch Pipeline
$Le_{(p/1)} = (3.82 \times 10^4)(72.7)/[(8.625)(480)(7.42)] = 90.4$ years

10.75-inch Pipeline
$Le_{(p/1)} = (3.82 \times 10^4)(91.8)/[(10.75)(480)(7.42)] = 91.6$ years

4. Water Depth: Minimum of 7,913 feet at MC-920 proposed platform
Maximum of 8,961 feet

5. Description of Protective Coating:

a. Pipeline:
Fusion Bonded Epoxy (FBE) -Minimum 14-16 mils
Concrete Weight Coating (CWC) - None.

b. Riser:

Below Water:	Minimum 18 mils of Fusion Bonded Epoxy (FBE) coating plus 2.5 to 4 mils of "Rough Coat" FBE coating. An abrasion resistant coating will be installed for 1000-ft. either side of the SCR touchdown location.
Splash Zone:	0.500 in. of Vulcanized Neoprene
Above Water:	10 mils (3 coat paint system; 2.5 mils Inorganic Zinc, 5 mils Multipurpose Epoxy, 2.5 mils Aliphide Polyurethane)

6. Internal Corrosion Protection: The pipeline will be monitored for corrosion and a chemical injection program instituted if necessary. The pipeline will not be designed for pigging. However, the pipeline will be suitable for pigging if necessary later.

7. Specific Gravity: SG = weight in air (empty) / water displacement (in seawater)

Description:	Air Weight (lb/ft)	Water Displacement (lb/ft)	Submerged Empty Weight (lb/ft)	Pipeline/Riser Specific Gravity
PIPELINE Line Pipe: 8.625" O.D. X 0.675" W.T. with FBE Coat.	57.75	26.09	31.65	2.21
PIPELINE Line Pipe: 10.75" O.D. X 0.862" W.T. with FBE Coat.	91.59	40.45	51.14	2.26
SCR 10.75" O.D. X 1.180" W.T. with FBE Coat.	121.20	40.45	80.75	3.00

8. Specific Gravity of Gas (Air = 1.0): 0.65

9. Design Capacity for Pipeline: 210 MMSCFD
   Condensate Rate: 2 BBL/MMSCF

10. Flowline System Shut-in Pressure:

The following calculations determine the shut-in pressures between the (+)100-ft. elevation at the host platform (MC-920) and the base of the flowline (-)8,961-ft. For conservatism, the maximum shut-in tubing pressure for any source is utilized and a conservative Methane gas unit weight at shut-in tubing pressure of 15 lb/ft^3 is assumed.

$$\Rightarrow \quad P_{shut-in} = 8{,}100 \text{ psig (Wellhead Shut – in Tubing Pressure)} - (\Delta Elevation\ from \max wd)\left(\frac{15\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right)$$

$$\text{Host Platform} + 100 \text{ MSL} \Rightarrow \quad P_{shut-in} = 8{,}100 \text{ psig (Wellhead Shut – in Tubing Pressure)} - (9{,}061 ft)\left(\frac{15\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 7{,}156\ psig$$

$$\text{Riser -0 fsw} \Rightarrow \quad P_{shut-in} = 8{,}100 \text{ psig (Wellhead Shut – in Tubing Pressure)} - (8{,}961 ft)\left(\frac{15\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 7{,}167\ psig$$

$$\text{Riser - 7913 fsw} \Rightarrow \quad P_{shut-in} = 8{,}100 \text{ psig (Wellhead Shut – in Tubing Pressure)} - (1{,}048 ft)\left(\frac{15\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 7{,}990\ psig$$

$$\text{Flowline - 7913 fsw} \Rightarrow \quad P_{shut-in} = 8{,}100 \text{ psig (Wellhead Shut – in Tubing Pressure)} - (1{,}048 ft)\left(\frac{15\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 7{,}990\ psig$$

$$\text{Flowline - 8,961 fsw} \Rightarrow \quad P_{shut-in} = 8{,}100 \text{ psig (Wellhead Shut – in Tubing Pressure)} - (0 ft)\left(\frac{15\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 8{,}100\ psig$$

11. Hydrostatic Test Pressure:

The Hydrostatic Test pressure and duration at the (+) 100-ft elevation at the Host platform will be 9,100 psig and 8 hours respectively. This test pressure is based on the meeting 125% of the Maximum Shut-in pressure at any location of the flowline system.

Required Hydrostatic Test Pressure

The hydrostatic test pressure is calculated below to ensure that the minimum required test pressure of 125% of the shut-in tubing pressure at any location within the flowline system is met. The calculations below determine the required hydrostatic test pressures at all locations of the flowline.

$$\text{Test Pressure at Host Platform} + 100 \text{ MSL} \Rightarrow \quad P_{req\,hyd} = 7{,}156 \text{ psig x } (125\%) = 8{,}945\ psig$$

$$\text{Riser -0 fsw} \Rightarrow \quad P_{req\,hyd} = 7{,}167 \text{ psig x } (125\%) = 8{,}959\ psig$$

$$\text{Riser - 7,913 fsw} \Rightarrow \quad P_{req\,hyd} = 7{,}990 \text{ psig x } (125\%) = 9.988\ psig$$

$$\text{Flowline - 7,913 fsw} \Rightarrow \quad P_{req\,hyd} = 7{,}990 \text{ psig x } (125\%) = 9{,}988\ psig$$

$$\text{Flowline - 8,961 fsw} \Rightarrow \quad P_{req\,hyd} = 8{,}100 \text{ psig x } (125\%) = 10{,}125\ psig$$

Minimum Hydrostatic Test Pressure

Based on the above calculations, the minimum hydrostatic test pressure at the top of riser ((+) 100-ft) will ensure that the required hydrostatic test pressure at all locations of the flowline are met. The minimum Hydrostatic test pressure of 8,945 psig will be maintained at the (+) 100-ft. elevation. The calculations below show the actual minimum hydrostatic test pressure at all locations along the flowline, accounting for seawater as the hydrotest medium (64 lb/ft^3).

$$\Rightarrow \quad P_{\min hyd} = 8{,}945 \text{ psig} + (\Delta Elevation\ from\ (+)100\,ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right)$$

$$\text{Host Platform} + 100 \text{ MSL} \Rightarrow \quad P_{\min hyd} = 8{,}945 \text{ psig} + (0\,ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 8{,}945\ psig$$

$$\text{Riser -0 fsw} \Rightarrow \quad P_{\min hyd} = 8{,}945 \text{ psig} + (100\,ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 8{,}989\ psig$$

$$\text{Riser - 7,913 fsw} \Rightarrow \quad P_{\min hyd} = 8{,}945 \text{ psig} + (8{,}013ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 12{,}506\ psig$$

$$\text{Flowline - 7,913 fsw} \Rightarrow \quad P_{\min hyd} = 8{,}945 \text{ psig} + (8{,}013ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 12{,}506\ psig$$

$$\text{Flowline - 8,961 fsw} \Rightarrow \quad P_{\min hyd} = 8{,}945 \text{ psig} + (9{,}061ft)\left(\frac{04\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 12{,}972\ psig$$

Effective Hydrostatic Test Pressure

Allowing for external pressure differential, the effective hydrostatic test pressure at any location of the flowline are calculated below. This effective hydrostatic test pressure will be utilized to determine the requirement to maintain a hoop stress of less than 95% of the specified minimum yield strength in the flowline system(section 14).

$$\Rightarrow \quad P_{eff\ hyd} = P_{\min hyd} - \text{Water Depth}\ (ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right)$$

$$\text{Host Platform} + 100 \text{ MSL} \Rightarrow \quad P_{\min hyd} = 8{,}945 \text{ psig} - (0\,ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 8{,}945\ psig$$

$$\text{Riser -0 fsw} \Rightarrow \quad P_{\min hyd} = 8{,}989 \text{ psig} - (0\,ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 8{,}989\ psig$$

$$\text{Riser - 7913 fsw} \Rightarrow \quad P_{\min hyd} = 12{,}506 \text{ psig} - (7{,}913ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 8{,}989\ psig$$

$$\text{Flowline - 7913 fsw} \Rightarrow \quad P_{\min hyd} = 12{,}506 \text{ psig} - (7{,}913ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 8{,}989\ psig$$

$$\text{Flowline - 8,961 fsw} \Rightarrow \quad P_{\min hyd} = 12{,}972 \text{ psig} - (8{,}961ft)\left(\frac{64\ lb}{ft^3}\right)\left(\frac{ft^2}{144\ in^2}\right) = 8{,}989\ psig$$

12. Internal Design Pressure of Flowline:

The flowline and riser pipe design pressure and subsequent pipe wall thickness requirements are based on the design equation as required in 30CFR250, Subpart J. The maximum shut-in tubing pressure at any wellhead source is 7,700 psig, and the maximum design pressure is 8,100 psig. The calculations below are for:

- Flowline 8-inch section (All Locations)
- Flowline 10-inch section (All Locations)
- Riser (All Locations)

For the flowline and riser segments, the minimum water depth is utilized to determine the external pressure, yielding the most conservative result.

Flowline 8-inch section (All Locations)

$$t_{nom} = \frac{(P_i - P_e)D}{2(F)(E)(T)(S)} \Rightarrow$$ 30 CFR 250 , ANSI B31.8 (rearranged)

S = Specified Minimum Yield Strength (SMYS) = 65,000 psi

D = Pipe Outside Diameter= 8.625 in.

F = Construction Design Factor = 0.72 (pipeline per 30 CFR 250)

E = Longitudinal Joint Factor = 1.0 (Seamless Pipe)

T = Temperature Derate Factor = 1.0 (Temp. ≤ 250 °F)

P_i = Internal Design Pressure= 8100 (psig)

P_e = External Pressure = $P_{seawater}$ (Calculated at minimum water depth)

$$= \left((8{,}634 \text{ ft})\left(\frac{64 \text{ lb}}{\text{ft}^3}\right)\left(\frac{\text{ft}^2}{144 \text{ in}^2}\right) \right) = 3{,}837 \text{ psig}$$

$$t_{nom} = \frac{\left(8{,}100 \text{ lb/in}^2 - 3{,}837 \text{ lb/in}^2\right)\left(8.625 \text{ in}\right)}{2\left(0.72\right)\left(1.0\right)\left(1.0\right)\left(65{,}000 \text{ lb/in}^2\right)} = 0.393 \text{ in}$$

= 0.675 in. Selected ⇒ OK

Flowline 10-inch section (All Locations)

$$t_{nom} = \frac{(P_i - P_e)D}{2(F)(E)(T)(S)} \Rightarrow$$ 30 CFR 250 , ANSI B31.8 (rearranged)

S = Specified Minimum Yield Strength (SMYS) = 65,000 psi

D = Pipe Outside Diameter= 10.75 in.

F = Construction Design Factor = 0.72 (pipeline per 30 CFR 250)

E = Longitudinal Joint Factor = 1.0 (Seamless Pipe)

T = Temperature Derate Factor = 1.0 (Temp. ≤ 250 °F)

P_i = Internal Design Pressure= 8100 (psig)

P_e = External Pressure = $P_{seawater}$ (Calculated at minimum water depth)

$$= \left((7913 \text{ ft})\left(\frac{64 \text{ lb}}{\text{ft}^3}\right)\left(\frac{\text{ft}^2}{144 \text{ in}^2}\right) \right) = 3{,}517 \text{ psig}$$

$$t_{nom} = \frac{\left(8{,}100 \text{ lb/in}^2 - 3{,}517 \text{ lb/in}^2\right)\left(10.75 \text{ in}\right)}{2\left(0.72\right)\left(1.0\right)\left(1.0\right)\left(65{,}000 \text{ lb/in}^2\right)} = 0.526 \text{ in}$$

= 0.862 in. Selected ⇒ OK

Riser (All Locations)

$$t_{nom} = \frac{(P_i - P_e)D}{2(F)(E)(T)(S)} \Rightarrow \quad 30 \text{ CFR } 250 \text{ , ANSI B31.8 (rearranged)}$$

S = Specified Minimum Yield Strength (SMYS) = 65,000 psi

D = Pipe Outside Diameter= 10.75 in.

F = Construction Design Factor = 0.60 (Riser Pipe per 30 CFR 250)

E = Longitudinal Joint Factor = 1.0 (Seamless Pipe)

T = Temperature Derate Factor = 1.0 (Temp. ≤ 250 °F)

P_i = Internal Design Pressure= 8100 (psig)

P_e = External Pressure = $P_{seawater}$

$$= \left((0 \text{ ft})\left(\frac{64 \text{ lb}}{\text{ft}^3}\right)\left(\frac{\text{ft}^2}{144 \text{ in}^2}\right) \right) = 0 \text{ psig (calculated at minimum water depth)}$$

$$t_{nom} = \frac{\left(8{,}100 \text{ lb/in}^2 - 0 \text{lb/in}^2\right)\left(10.75 \text{ in}\right)}{2\left(0.60\right)\left(1.0\right)\left(1.0\right)\left(65{,}000 \text{lb/in}^2\right)} = 1.12 \text{ in}$$

= 1.18 in. Selected ⇒ OK

13. Pipe Design Pressure (P) of Flanges, Fittings and Valves in Pipeline and Riser:

- Valves: API Rating: 10,000 psig
- Flanges, etc: API Rating: 10,000 psig

14. Pipeline Hoop Stress During Hydrotest:

In order to verify that 95% of the material Specified Minimum Yield Strength is not exceeded during hydrotesting, the calculations below were performed for each location along the riser and flowline system. The effective hydrotest pressure determined in section 11 above were utilized.

$$\% \text{ SMYS at Hydrotest} = \frac{P_{eff\ hyd} D}{2tS} \times 100\%$$

D = Outside Pipe Diameter = varies 8.625 or 10.75 (in)

t = Pipe Wall Thickness = varies (in) (8" pipeline = 0.675 in., 10" pipeline = 0.862 in., 10" Riser = 1.18

S = Specified Minimum Yield Strength (SMYS) = 65,000 psi

$P_{eff\ hyd}$ = EffectiveHydrostaticTestPressure = varies (lb/in2) (refer to section 12 above)

Host Platform +100 MSL (10" Riser) $\Rightarrow$ % SMYS at Hydrotest $= (\frac{8{,}945\ \text{lb}}{\text{in}^2})(\frac{10.75\ \text{in}}{1})(\frac{1}{2})(\frac{1}{1.18\ \text{in}})(\frac{\text{in}^2}{65{,}000\ \text{lb}}) \times 100\% = 62.7\%$

10"*R*iser -0 fsw $\Rightarrow$ % SMYS at Hydrotest $= (\frac{8{,}989\ \text{lb}}{\text{in}^2})(\frac{10.75\ \text{in}}{1})(\frac{1}{2})(\frac{1}{1.18\ \text{in}})(\frac{\text{in}^2}{65{,}000\ \text{lb}}) \times 100\% = 63.0\%$

10"*R*iser - 7,913 fsw $\Rightarrow$ % SMYS at Hydrotest $= (\frac{8{,}989\ \text{lb}}{\text{in}^2})(\frac{10.75\ \text{in}}{1})(\frac{1}{2})(\frac{1}{1.18\ \text{in}})(\frac{\text{in}^2}{65{,}000\ \text{lb}}) \times 100\% = 63.0\%$

10"*F*lowline - 7,913 fsw $\Rightarrow$ % SMYS at Hydrotest $= (\frac{8{,}989\ \text{lb}}{\text{in}^2})(\frac{10.75\ \text{in}}{1})(\frac{1}{2})(\frac{1}{0.862\ \text{in}})(\frac{\text{in}^2}{65{,}000\ \text{lb}}) \times 100\% = 86.2\%$

10"Flowline - 8,634 fsw $\Rightarrow$ % SMYS at Hydrotest $= (\frac{8{,}989\ \text{lb}}{\text{in}^2})(\frac{10.75\ \text{in}}{1})(\frac{1}{2})(\frac{1}{0.862\ \text{in}})(\frac{\text{in}^2}{65{,}000\ \text{lb}}) \times 100\% = 86.2\%$

8"*F*lowline - 8,634 fsw $\Rightarrow$ % SMYS at Hydrotest $= (\frac{8{,}989\ \text{lb}}{\text{in}^2})(\frac{8.625\ \text{in}}{1})(\frac{1}{2})(\frac{1}{0.675\ \text{in}})(\frac{\text{in}^2}{65{,}000\ \text{lb}}) \times 100\% = 88.4\%$

8"Flowline - 8,961 fsw $\Rightarrow$ % SMYS at Hydrotest $= (\frac{8{,}989\ \text{lb}}{\text{in}^2})(\frac{8.625\ \text{in}}{1})(\frac{1}{2})(\frac{1}{0.675\ \text{in}})(\frac{\text{in}^2}{65{,}000\ \text{lb}}) \times 100\% = 88.4\%$

15. Maximum Allowable Operating Pressure (MAOP):

For this design, the Maximum Allowable Operating Pressure of the flowline and riser will be based on the lesser of the following at each location in the flowline system:

- 80% of Hydrostatic test Pressure (Determined Below)
- Design Pressure (Detemined in Section 12)

MAOP Based on 80% of Hydrostatic Testing

The Maximum Allowable Operating Pressure for this flowline system is based upon the design pressure of 8,100 psig. This pressure, however, would not be experienced for the entire length of the flowline due to the internal and external hydrostatic pressures. The presence of Hydrotest Water, and/or Product Gas can reduce the pressure at the top of the riser significantly. Based upon the fluid hydrostatic pressure calculations, the situation with the entire pipeline filled with Methane gas is taken as the "worst" case. Although it is extremely unlikely that this condition would ever occur, it would not be possible to have any fluid combination in the flowline that could produce a higher shut-in pressure at the top of the riser. If one assumes that this is in fact the "worst" case, the following calculations show the Maximum Allowable Operating Pressure (MAOP) based upon the "effective" hydrotest pressure at designated location along the flowline system.

$$\text{MAOP} = 80\% \text{ Effective Hydrotest Pressure} + \text{External Pressure}$$
$$= (P_{eff\ hyd} \times 80\%) + P_e$$
$$P_{eff\ hyd} = P_{t\ hyd} - H_e \quad \text{(See Section 11 Above)}$$
$$P_e = \text{External Pressure} = (\Delta E_e)(\frac{64lb}{ft^3})(\frac{ft^2}{144in^2})$$
$$\Delta E_e = \text{Depth of sea water outside pipeline}$$

Host Platform + 100 MSL $\Rightarrow$ $\text{MAOP} = \left[(8{,}945\,psig \times 80\%) + [(0\,ft)(\frac{64lb}{ft^3})(\frac{ft^2}{144in^2})]\right] = 7{,}156\,psig$

Riser -0 fsw $\Rightarrow$ $\text{MAOP} = \left[(8{,}989\,psig \times 80\%) + [(0\,ft)(\frac{64lb}{ft^3})(\frac{ft^2}{144in^2})]\right] = 7{,}191\,psig$

Riser -7913 fsw $\Rightarrow$ $\text{MAOP} = \left[(8{,}989\,psig \times 80\%) + [(7913\,ft)(\frac{64lb}{ft^3})(\frac{ft^2}{144in^2})]\right] = 10{,}708\,psig$

Flowline -7913 fsw $\Rightarrow$ $\text{MAOP} = \left[(8{,}989\,psig \times 80\%) + [(7913\,ft)(\frac{64lb}{ft^3})(\frac{ft^2}{144in^2})]\right] = 10{,}708\,psig$

Flowline -8,961 fsw $\Rightarrow$ $\text{MAOP} = \left[(8{,}989\,psig \times 80\%) + [(8{,}961\,ft)(\frac{64lb}{ft^3})(\frac{ft^2}{144in^2})]\right] = 11{,}174\,psig$

MAOP Evaluation:

Location Along Pipeline	Flowline System Shut-in Pressure (Methane Filled) (psig)	80% Hydrostatic Test Pressure ** (psig)	Design Pressure (psig)	**Maximum Allowable Operating Pressure (MAOP)*** (psig)**
Riser Pipe @ +100' MSL	7,156	7,156	8,100	**7,156**
Riser Pipe @ –0' MSL	7,167	7,191	8,100	**7,191**
Riser Pipe @ –7,913' MSL	7,990	10,708	8,100	**8,100**
Flowline @ -7,913' MSL	7,990	10,708	8,100	**8,100**
Flowline @ –8,961 MSL	8,100	11,174	8,100	**8,100**

* The operating pressure is the pressure seen at the point in the riser/flowline based upon a Methane gas filled flowline system

** The 80% hydrotest pressure is the pressure determined by 80% of the effective hydrostatic test pressure plus the external seawater pressure.

*** The Maximum Allowable Operating Pressure is determined by the minimum of:
a. 80% Hydrostatic Test Pressure
b. Design Pressure

16. Riser Protection: The Steel Catenary Risers(SCR's) will be suspended from the floating production platform. From the top of the SCR, piping for the risers will be located within the confines of the production platform structure and thus protected by the host structure. Therefore, "Riser Guards" will not be required.

17. On Bottom Stability: Stability against effects of water currents and storms has been evaluated. The specific gravity of the operational oil pipeline is more than adequate to ensure on-bottom pipeline stability in these water depths.

18. Pipeline Spanning: A pipeline span analysis has been conducted along the entire route. Although the analysis indicates the possible existence of pipeline spans after installation, these spans are within allowable limits for installation, operation and hydrostatic testing. The analysis accounts for static and dynamic stresses as well as vortex induced vibrations. All stresses for installation, operation and hydrostatic testing are within allowable limits. The potential spans lengths identified are short enough such that Vortex Induced Vibrations (VIV) are not expected. Should spans which exceed allowable limits be found after installation, these will be rectified with placement of intermediate supports, or VIV suppression.

19. Collapse Due to External Pressure: The riser and flowline pipe has been designed to resist collapse due to external pressure. Evaluation has been performed in accordance with API Recommended Practice 1111 (Third Edition). The evaluations for both the riser pipe and flowline pipe were conducted based on the maximum associated water depth. Results are provided below:

10 - inch Riser Pipe:

P_e = ExternalPressure (Sea Water Hydrostatic Pressure)

$P_e = (D_{H_2O})(\rho\rho_{H_2O})$

D_{H_2O} = Water Depth (ft)

$\rho\rho_{H_2O}$ = Sea Water Density ($64\ ^{lb}/_{ft^3}$)

$$P_e = \left[(7{,}913\text{ ft})(\frac{64\text{ lb}}{\text{ft}^3})(\frac{\text{ft}^2}{144\text{ in}^2})\right] = 3{,}517\ ^{lb}/_{in^2}$$

$P_e = 3{,}517\ psig$

$$P_s = \frac{(P_y)(P_{ins})}{\sqrt{(P_y^{\,2} + P_{ins}^{\,2})}} = \text{Collapse Pressure of Pipe}$$

P_y = Plastic Yield Pressure = $\frac{2St}{D}$

S = Pipe Yield Strength ($^{lb}/_{in^2}$) = 65,000 $^{lb}/_{in^2}$

t = Pipe Wall Thickness (in) = 1.18 in

D = Pipe Outside Diameter (in) = 10.75 in

$$P_y = (\frac{2}{1})(\frac{65{,}000\text{ lb}}{\text{in}^2})(\frac{1.18\text{ in}}{1})(\frac{1}{10.75\text{ in}}) = 14{,}270\ ^{lb}/_{in^2}$$

$P_y = 14{,}270$ psi

P_{ins} = Elastic Instability Pressure = $(2.2)(E)\left(\frac{t}{D}\right)^3$

E = Elastic Modulus = 29,000,000 $^{lb}/_{in^2}$ (for steel)

$$P_{ins} = (2.2)(\frac{29{,}000{,}000\text{ lb}}{\text{in}^2})\left(\frac{1.18\text{ in}}{10.75\text{ in}}\right)^3 = 84{,}380\ ^{lb}/_{in^2}$$

$P_{ins} = 84{,}380$ psi

$$P_s = \frac{(14{,}270\ ^{lb}/_{in^2})(84{,}380\ ^{lb}/_{in^2})}{\sqrt{((14{,}270\ ^{lb}/_{in^2})^2 + (84{,}380\ ^{lb}/_{in^2})^2)}} = 14{,}070\ ^{lb}/_{in^2}$$

$P_s = 14{,}070$ psi

Safety Factor Against Casing Collapse = $\frac{P_s}{P_e} = \frac{14{,}070\text{ psi}}{3{,}517\text{ psi}} = 4.00 \Rightarrow$ OK: Safety Factors > 1.5 are adequate

10-inch Flowline Pipe:

P_e = ExternalPressure (Sea Water Hydrostatic Pressure)

$P_e = (D_{H_2O})(\rho\rho_{H_2O})$

D_{H_2O} = Water Depth (ft)

$\rho\rho_{H_2O}$ = Sea Water Density (64 lb/ft^3)

$$P_e = \left[(8{,}634\ \text{ft})\left(\frac{64\ \text{lb}}{\text{ft}^3}\right)\left(\frac{\text{ft}^2}{144\ \text{in}^2}\right)\right] = 3{,}837\ lb/in^2$$

$P_e = 3{,}837\ psig$

$$P_s = \frac{(P_y)(P_{ins})}{\sqrt{(P_y^{\,2} + P_{ins}^{\,2})}} = \text{Collapse Pressure of Pipe}$$

$$P_y = \text{Plastic Yield Pressure} = \frac{2St}{D}$$

S = Pipe Yield Strength (lb/in^2) = 65,000 lb/in^2

t = Pipe Wall Thickness (in) = 0.862 in

D = Pipe Outside Diameter (in) = 10.75 in

$$P_y = \left(\frac{2}{1}\right)\left(\frac{65{,}000\ \text{lb}}{\text{in}^2}\right)\left(\frac{0.862\ \text{in}}{1}\right)\left(\frac{1}{10.75\ \text{in}}\right) = 10{,}424\ lb/in^2$$

$P_y = 10{,}424$ psi

$$P_{ins} = \text{Elastic Instability Pressure} = (2.2)(E)\left(\frac{t}{D}\right)^3$$

E = Elastic Modulus = 29,000,000 lb/in^2 (for steel)

$$P_{ins} = (2.2)\left(\frac{29{,}000{,}000\ \text{lb}}{\text{in}^2}\right)\left(\frac{0.862\ \text{in}}{10.75\ \text{in}}\right)^3 = 32{,}894\ lb/in^2$$

$P_{ins} = 32{,}894$ psi

$$P_s = \frac{(10{,}424\ lb/in^2)(32{,}894\ lb/in^2)}{\sqrt{((10{,}424\ lb/in^2)^2 + (32{,}894\ lb/in^2)^2)}} = 9{,}937\ lb/in^2$$

$P_s = 9{,}937$ psi

Safety Factor Against Casing Collapse $= \frac{P_s}{P_e} = \frac{9{,}937\ \text{psi}}{3{,}837\ \text{psi}} = 2.59 \Rightarrow$ OK: Safety Factors > 1.5 are adequate

8-inch Flowline Pipe:

P_e = ExternalPressure (Sea Water Hydrostatic Pressure)

$P_e = (D_{H_2O})(\rho\rho_{H_2O})$

D_{H_2O} = Water Depth (ft)

$\rho\rho_{H_2O}$ = Sea Water Density ($64\ ^{lb}/_{ft^3}$)

$$P_e = \left[(8{,}961\text{ ft})\left(\frac{64\text{ lb}}{\text{ft}^3}\right)\left(\frac{\text{ft}^2}{144\text{ in}^2}\right)\right] = 3{,}983\ ^{lb}/_{in^2}$$

$P_e = 3{,}983\ psig$

$$P_s = \frac{(P_y)(P_{ins})}{\sqrt{(P_y^{\,2} + P_{ins}^{\,2})}} = \text{Collapse Pressure of Pipe}$$

P_y = Plastic Yield Pressure = $\frac{2St}{D}$

S = Pipe Yield Strength ($^{lb}/_{in^2}$) = 65,000 $^{lb}/_{in^2}$

t = Pipe Wall Thickness (in) = 0.675 in

D = Pipe Outside Diameter (in) = 8.625 in

$$P_y = \left(\frac{2}{1}\right)\left(\frac{65{,}000\text{ lb}}{\text{in}^2}\right)\left(\frac{0.675\text{ in}}{1}\right)\left(\frac{1}{8.625\text{ in}}\right) = 10{,}174\ ^{lb}/_{in^2}$$

$P_y = 10{,}174$ psi

P_{ins} = Elastic Instability Pressure = $(2.2)(E)\left(\frac{t}{D}\right)^3$

E = Elastic Modulus = 29,000,000 $^{lb}/_{in^2}$ (for steel)

$$P_{ins} = (2.2)\left(\frac{29{,}000{,}000\text{ lb}}{\text{in}^2}\right)\left(\frac{0.675\text{ in}}{8.625\text{ in}}\right)^3 = 30{,}581\ ^{lb}/_{in^2}$$

$P_{ins} = 30{,}581$ psi

$$P_s = \frac{(10{,}174\ ^{lb}/_{in^2})(30{,}581\ ^{lb}/_{in^2})}{\sqrt{((10{,}124\ ^{lb}/_{in^2})^2 + (30{,}581\ ^{lb}/_{in^2})^2)}} = 9{,}658\ ^{lb}/_{in^2}$$

$P_s = 9{,}937$ psi

Safety Factor Against Casing Collapse = $\frac{P_s}{P_e} = \frac{9{,}658\text{ psi}}{3{,}983\text{ psi}} = 2.43 \Rightarrow$ OK: Safety Factors > 1.5 are adequate

20. Buckle Arrestors: The riser pipe has been designed to resist a propagating buckle if initiated. The flowline pipe has not been designed to resist a propagating buckle if initiated. The flowline will be installed with buckle arrestors designed to arrest propagating buckles and spaced at 1000-foot spacings.

21. Pipeline Crossings: There are no crossings of existing pipelines associated with this installation.

22. Worst Case Discharge: As this is a "dry" gas flowline, oil spill volumes due to a leak in the flowline system would be minimal. However, the worst case oil spill calculations take into account potential retrograde condensate trapped in the pipeline. The potential "worst case" calculation is summarized below:

System leak detection plus shutdown response time:	1.5 minutes
Predicted oil(condensate) flow rate:	0.291 bbl/min
Flowing volume loss:	1 bbl
Longest untrapped volume:	5 bbl
Worst Case Discharge:	6 bbl

23. Steel Catenary Riser

The riser for this flowline, which connects to a floating semi-submersible production platform will be a Steel Catenary Riser (SCR) connected to the platform hull. The SCR riser will be designed for a minimum life of 20-years with a minimum fatigue life of 200-years, providing a factor of safety against fatigue of 10. In order to reduce the Vortex Induced Vibration contribution to the fatigue damage, Helical Strakes or Fairings will be installed on the upper portions of the riser.

24. Control Umbilical

There will be a control umbilical associated with this pipeline. An umbilical cross section and data sheet are included as an attachment to this permit application. This umbilical will consist of two sections, namely the Cheyenne Umbilical and the Jubilee Umbilical.

C. INSTALLATION REQUIREMENTS

The pipeline will be installed in a water depths to 8,961 feet. The pipeline is located in water depths greater than 200 feet, therefore pipeline burial is not required.

The 8/10-inch line will be electrically isolated from the platforms.

D. CONSTRUCTION INFORMATION

1. Proposed Construction Commencement date is November 1, 2005.

2. Shore Construction Base to be located in Fourchon, Louisiana.

3. The pipeline and spools will be installed by a dynamically positioned S-lay lay vessel. The SCR riser will be installed by a dynamically positioned Derrick Semi Submersible vessel.

4. The pipeline will not be buried.

5. Time Required for Construction: Pipeline :3 weeks (Approx. November/December 2005), SCR Hangoff: 1 week (Approx. August 2006)

UNITED STATES
DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE

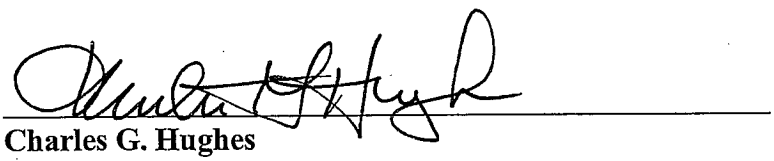
NONDISCRIMINATION IN EMPLOYMENT

As a condition precedent to the approval of the granting of the subject pipeline right-of-way, the grantee, Anadarko Petroleum Corporation hereby agrees and consents to the following stipulation which is to be incorporated into the application for said right-of-way.

During the performance of this grant, the grantee agrees as follows:

> During the performance under this grant, the grantee shall fully comply with paragraphs (1) through (7) of section 202 of Executive Order 11246, as amended (reprinted in 41 CFR 60-1.4(a)), which are for the purpose of preventing discrimination against persons on the basis of race, color, religion, sex or national origin. Paragraphs (1) through (7) of section 202 of Executive Order 11246, as amended, are incorporated in this grant by reference.

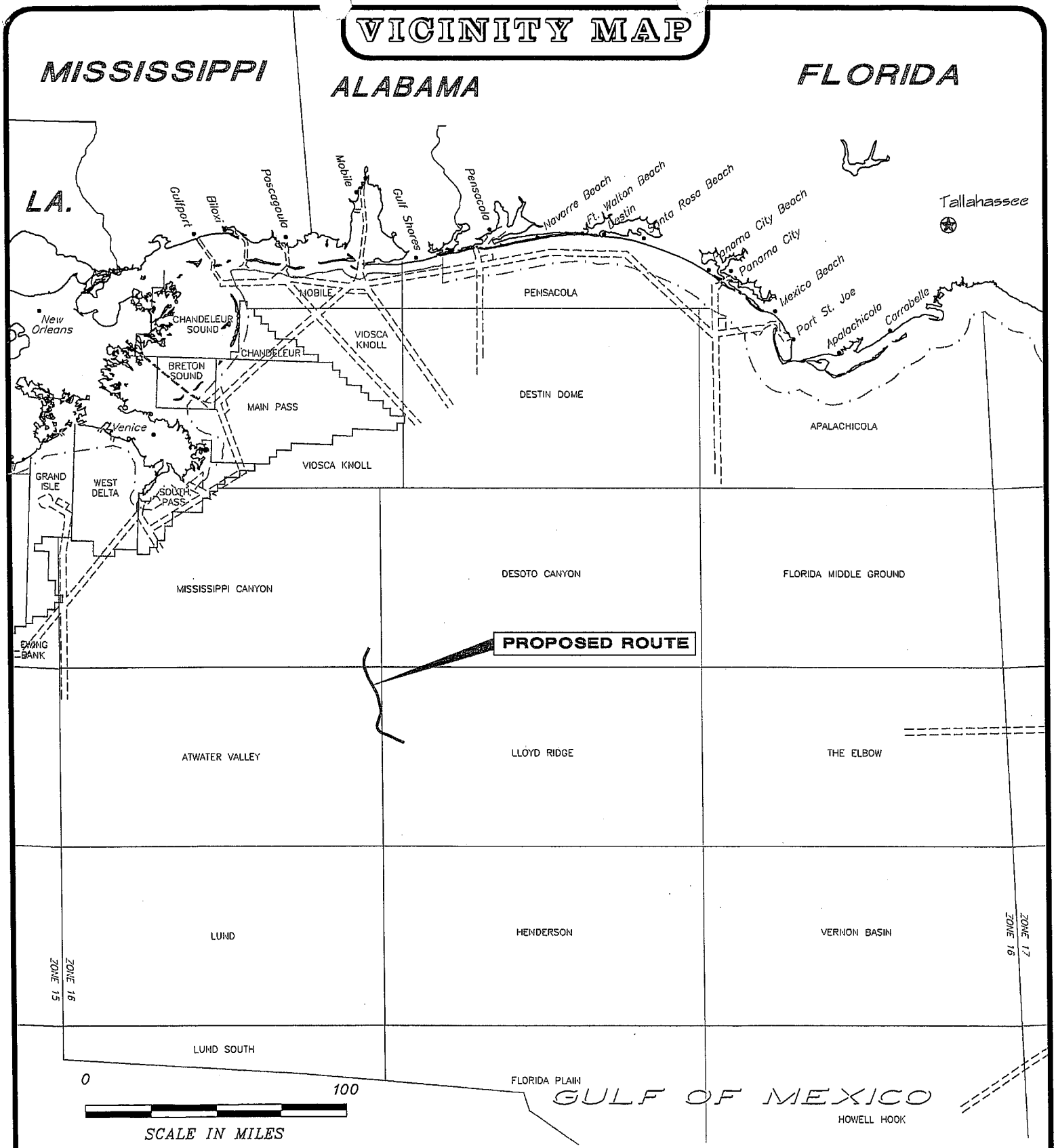
Anadarko Petroleum Corporation - Grantee



Charles G. Hughes
Agent & Attorney-in-fact

May 13, 2005
Date

VICINITY MAP



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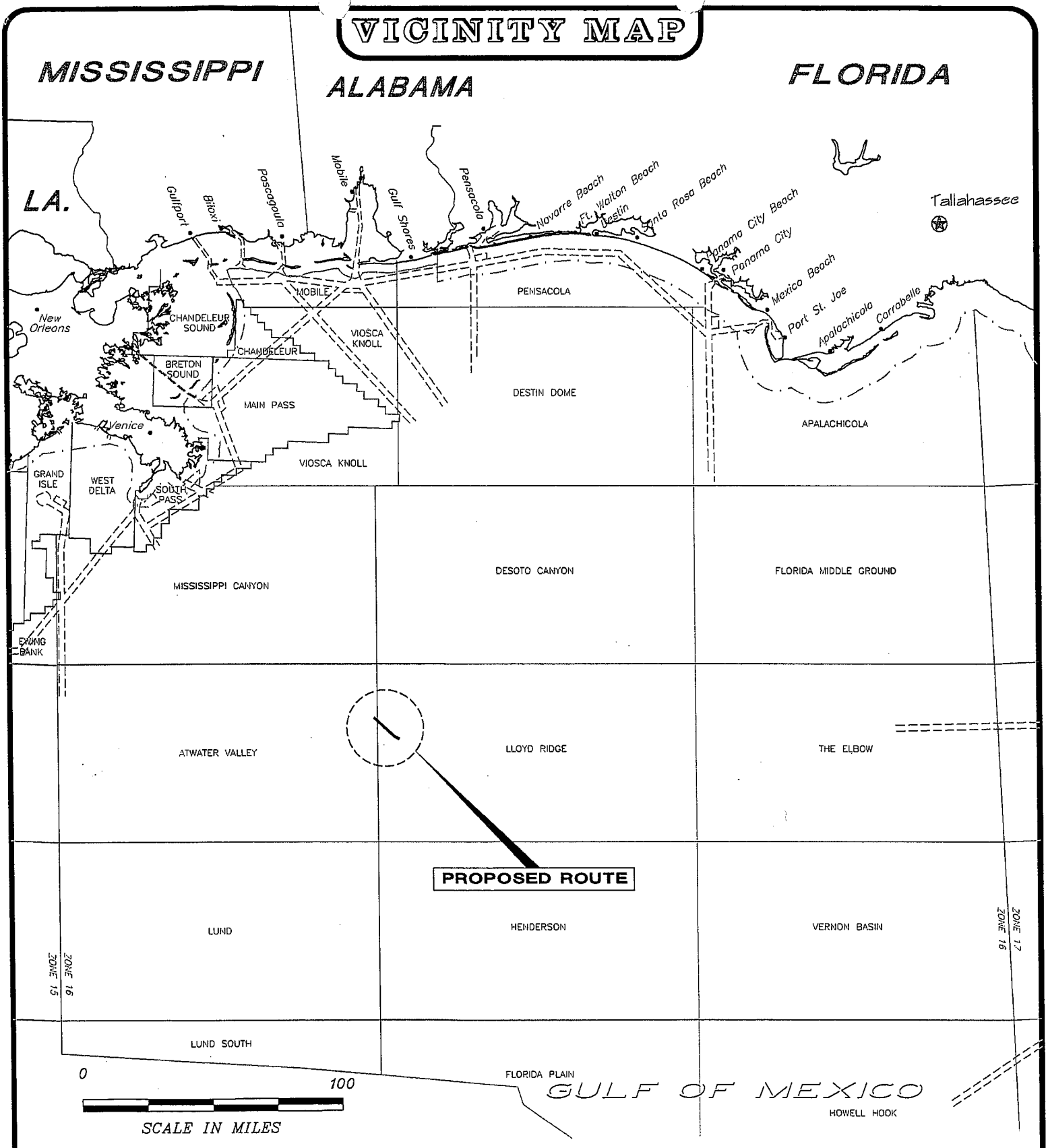
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
	FILENAME: PRMCVR7458-JVC.DWG		SHEET 1 of 24

VICINITY MAP



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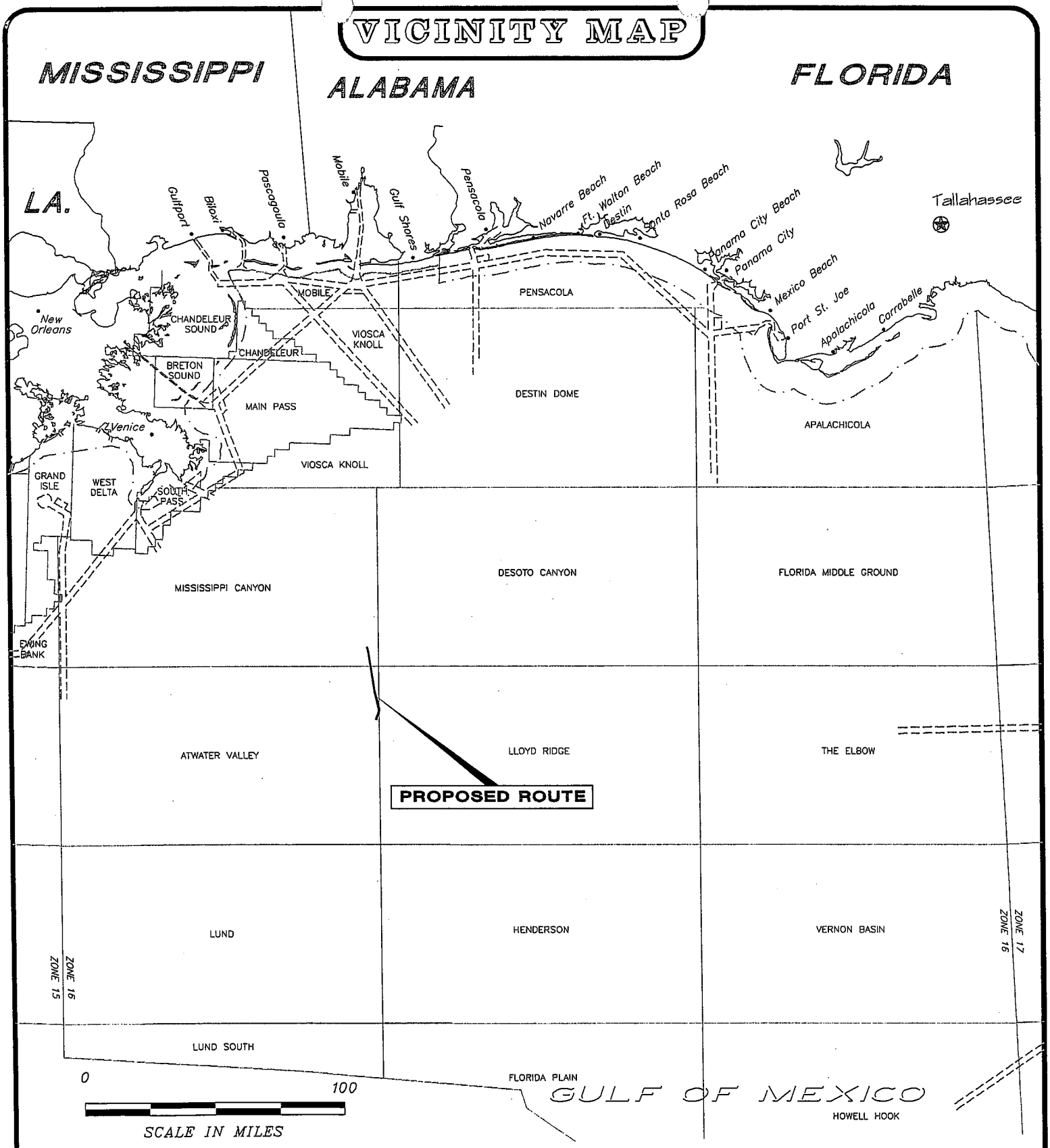
Anadarko Petroleum Corporation

PROPOSED CHEYENNE 6" UMBILICAL

Block 399 Proposed Well No. 2 (SUTA)
Lloyd Ridge Area
to
Block 305 Well No. 1 (SUTA), Atwater Valley Area

PREPARED BY:	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	FILENAME: PRMCVR7458.DWG		SHEET 1 of 7

VICINITY MAP



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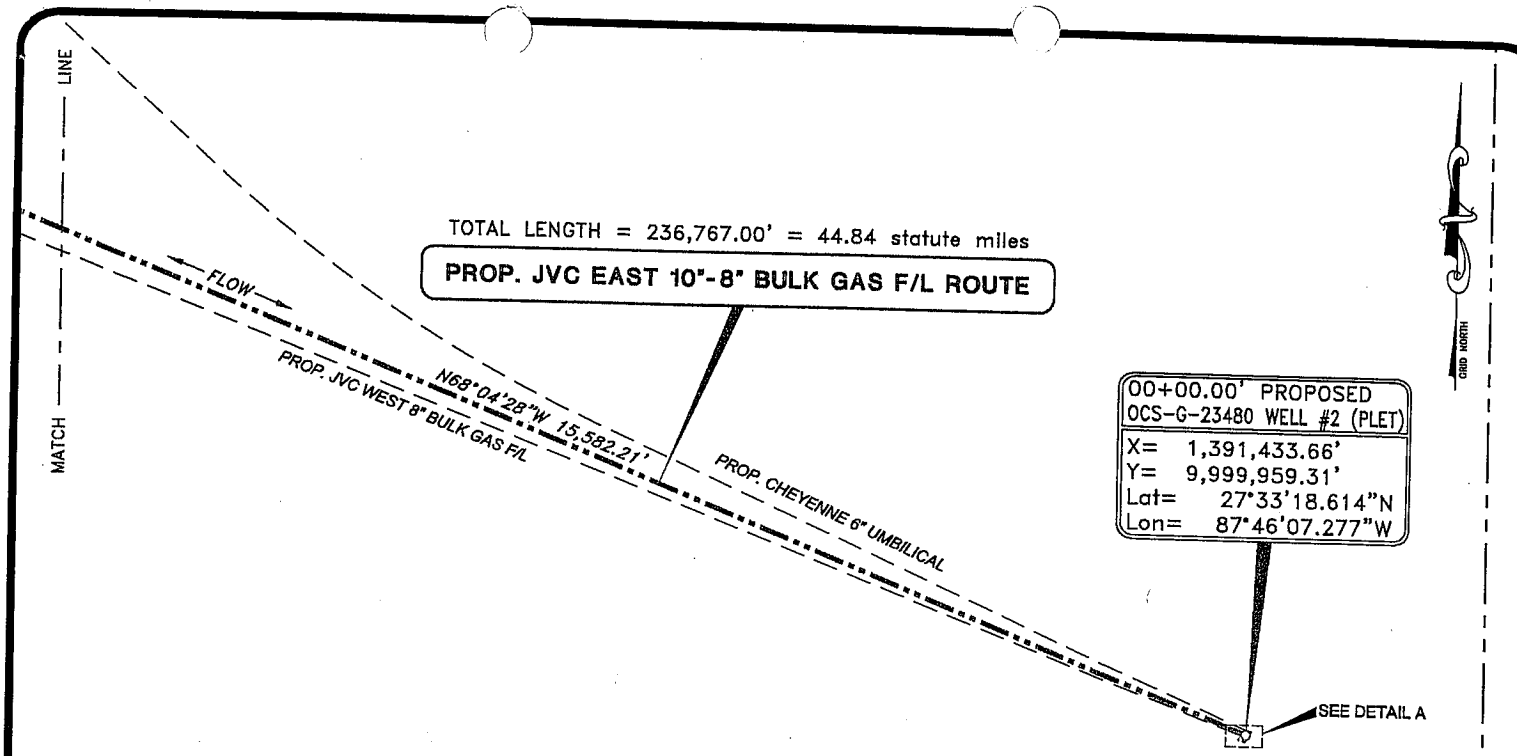
Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

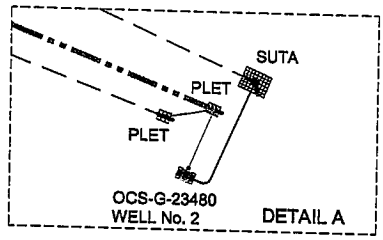
PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
	FILENAME: 7458PRMCVR-JUB.dwg		SHEET 1 of 18



LL399

OCS-G-23480

SHELL/ANADARKO



STATE OF LOUISIANA
RALPH A. COLEMAN
REG. No. 4691
REGISTERED
PROFESSIONAL
LAND SURVEYOR

THE PROPOSED ROUTE IS ACCURATELY REPRESENTED.

RALPH A. COLEMAN
PROFESSIONAL LAND SURVEYOR
LOUISIANA REGISTRATION No. 4691

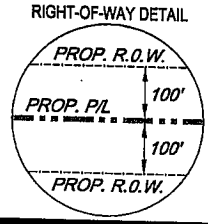
PLAN

0' 2000'

SCALE IN US SURVEY FEET

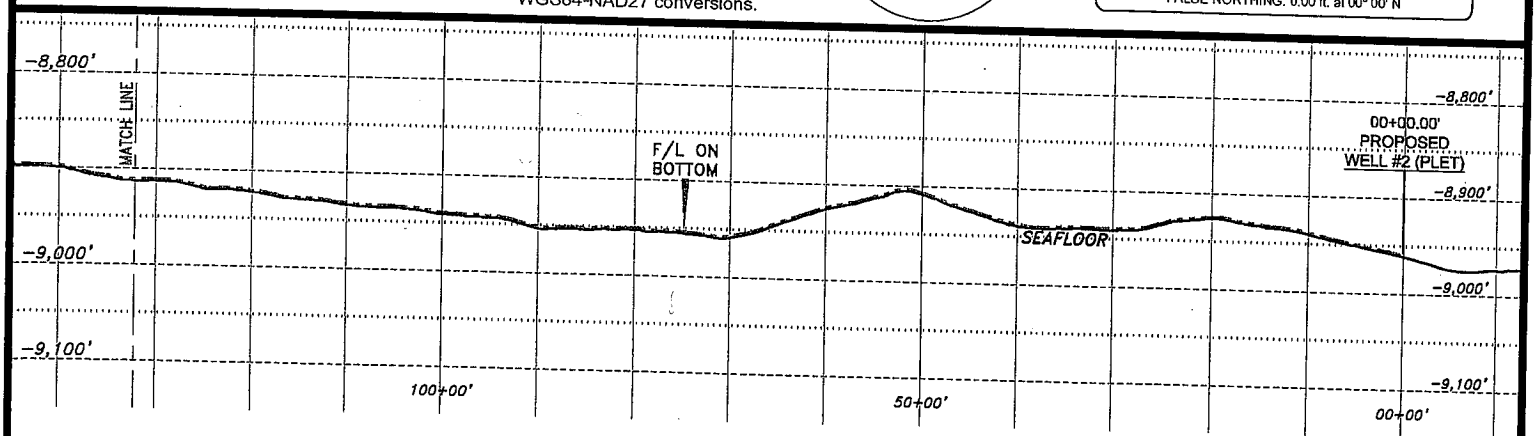
NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

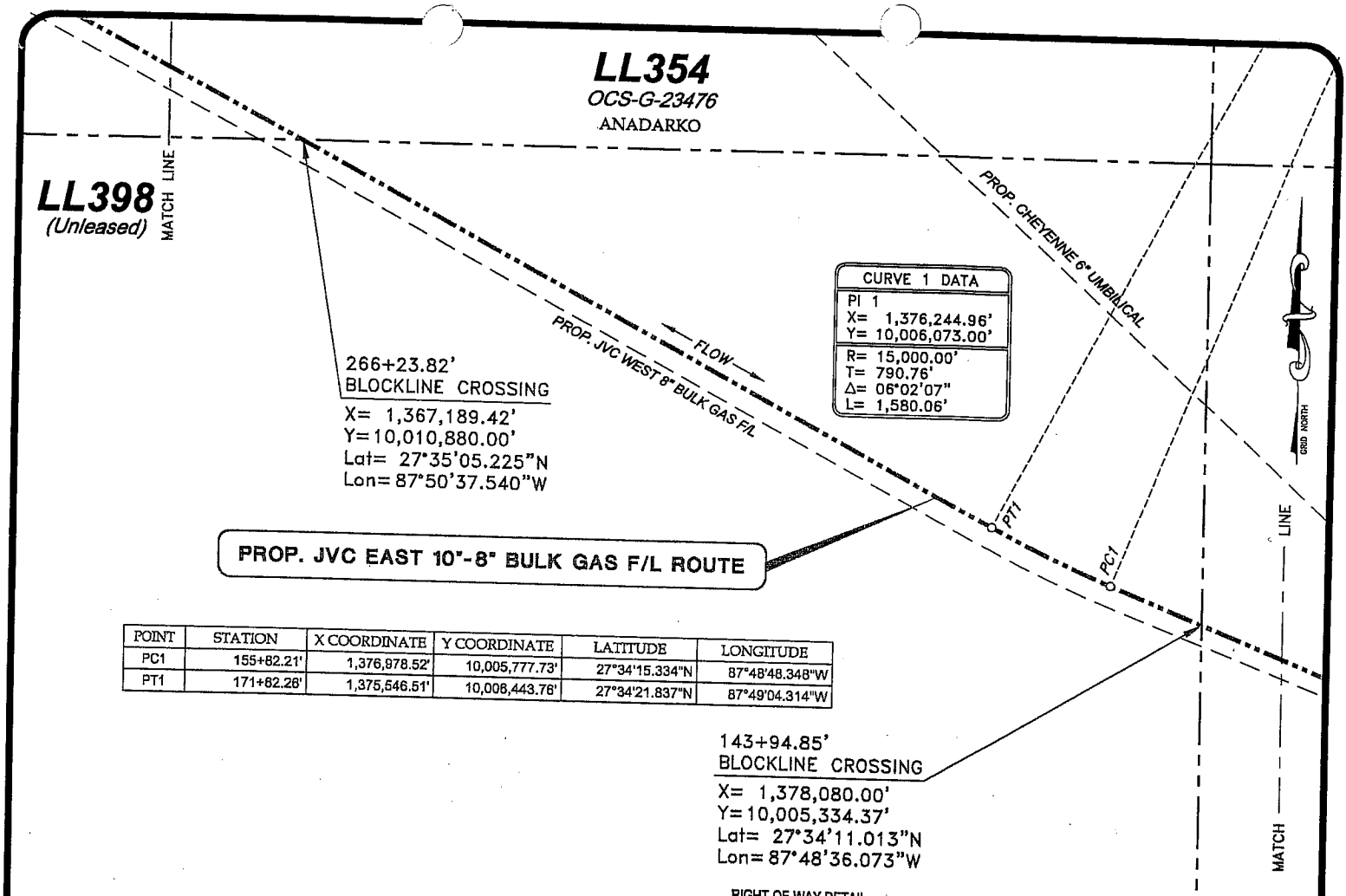
DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

Anadarko Petroleum Corporation

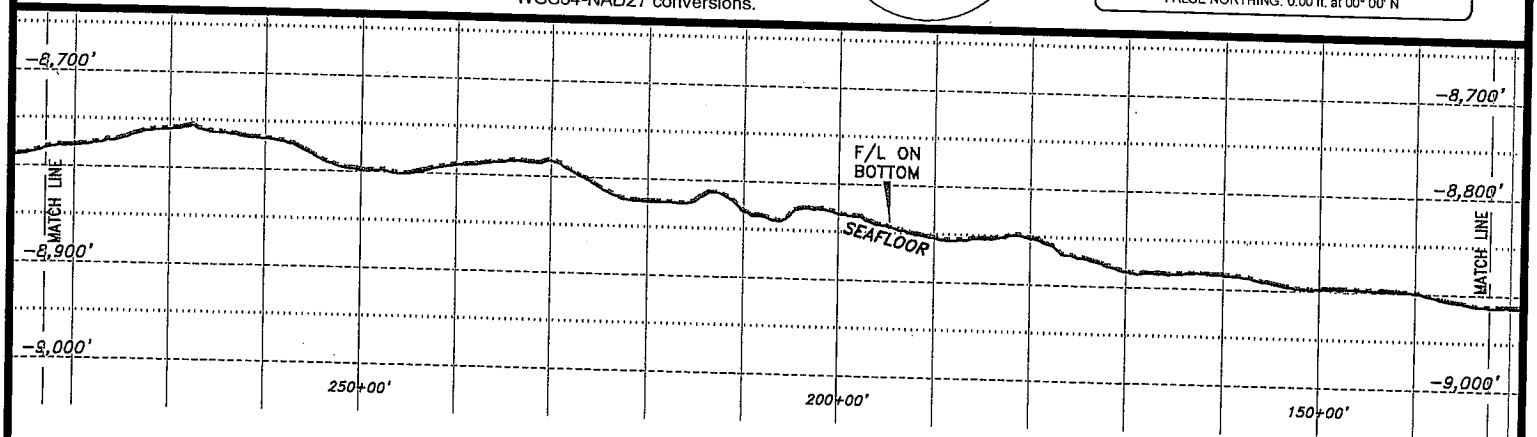
PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
	FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 2 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC1	155+82.21'	1,376,978.52'	10,005,777.73'	27°34'15.334"N	87°48'48.348"W
PT1	171+62.26'	1,375,546.51'	10,008,443.76'	27°34'21.837"N	87°49'04.314"W



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

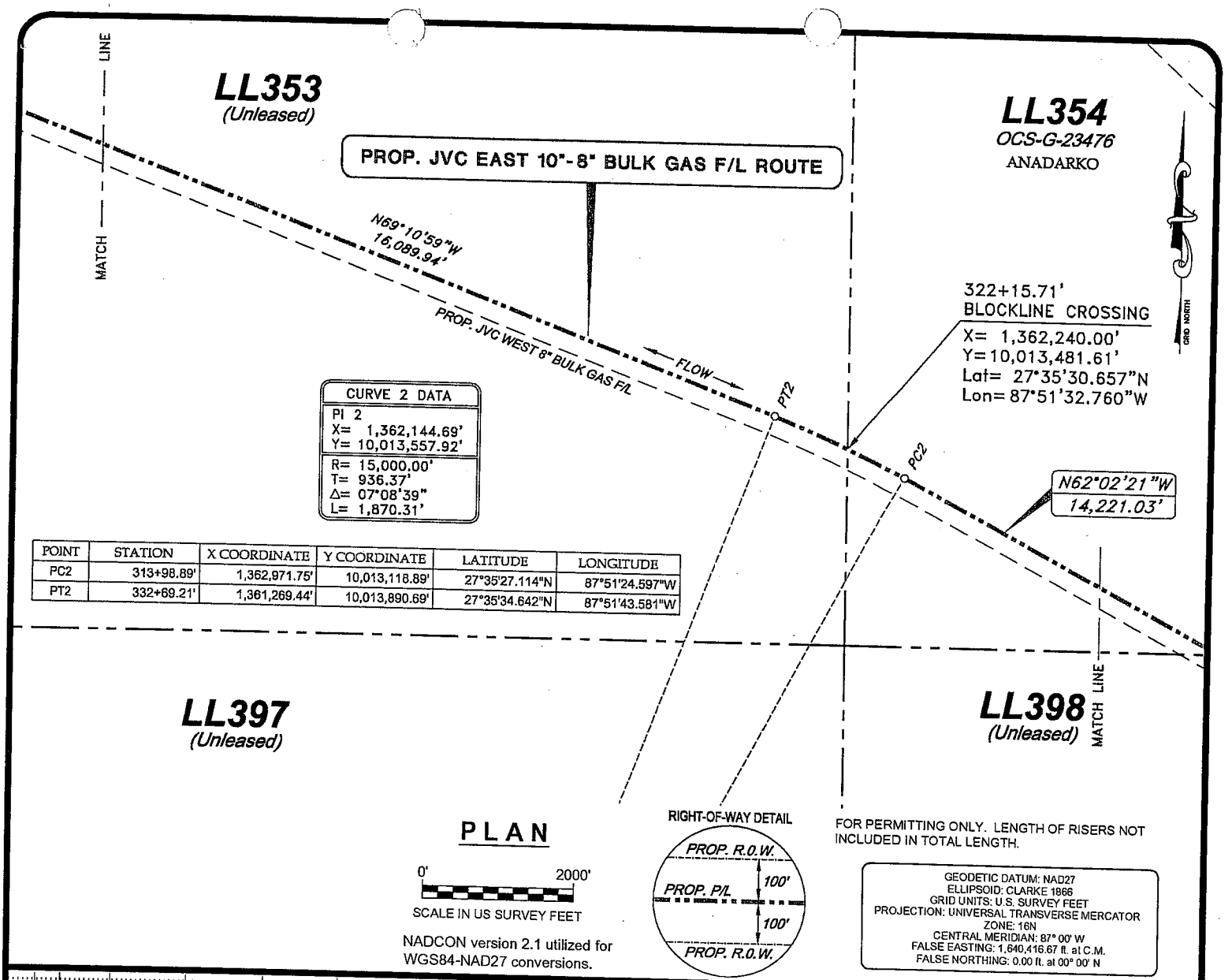
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 3 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC2	313+98.89'	1,362,971.75'	10,013,118.89'	27°35'27.114"N	87°51'24.597"W
PT2	332+69.21'	1,361,269.44'	10,013,890.69'	27°35'34.642"N	87°51'43.581"W

PLAN

0' 2000'

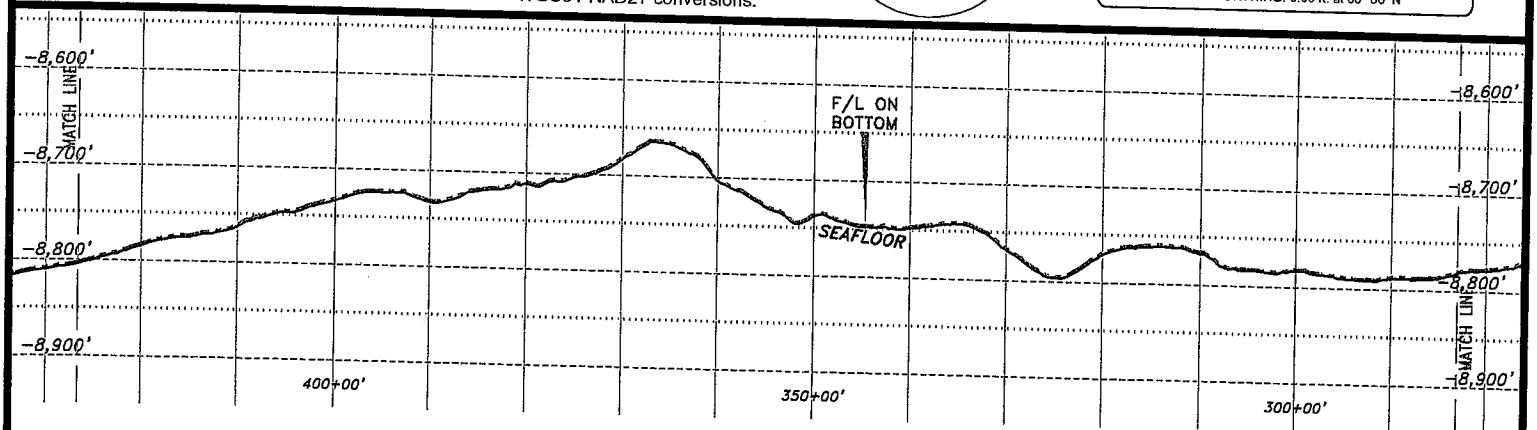
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

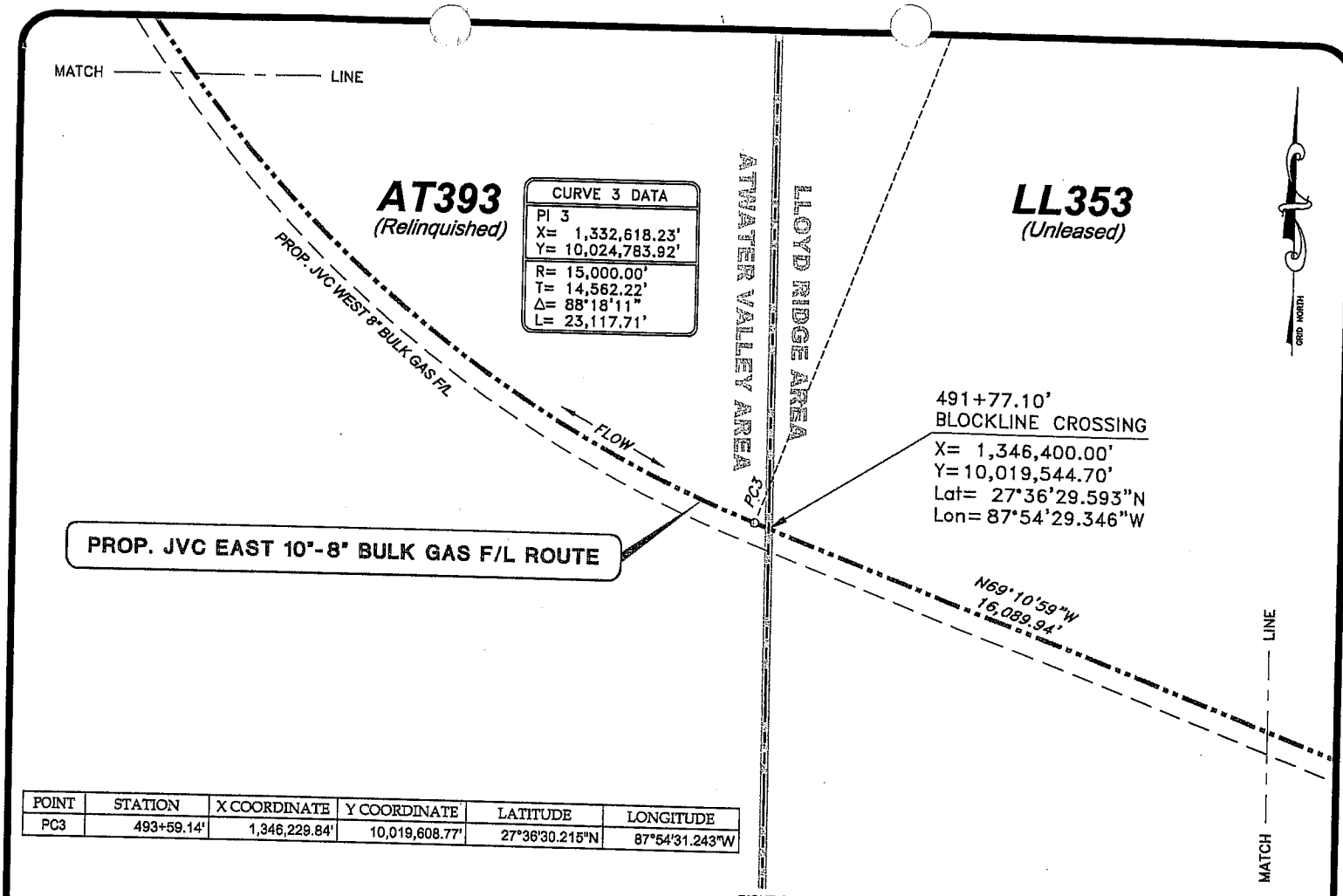
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 4 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC3	493+59.14'	1,346,229.84'	10,019,608.77'	27°36'30.215"N	87°54'31.243"W

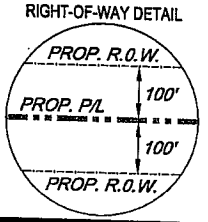
PLAN

0' 2000'

SCALE IN US SURVEY FEET

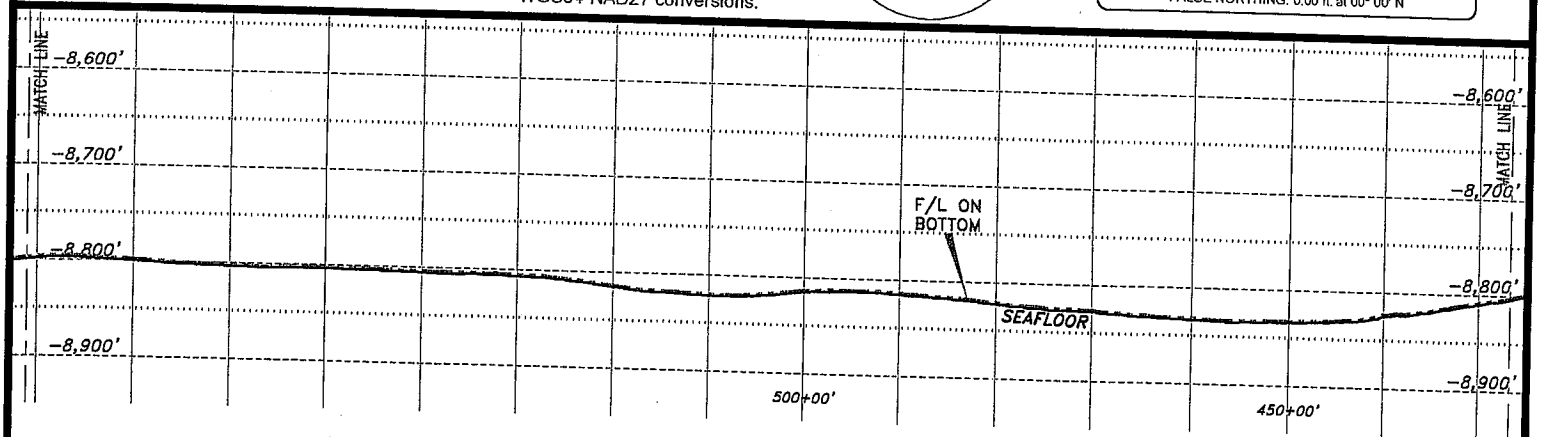
NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

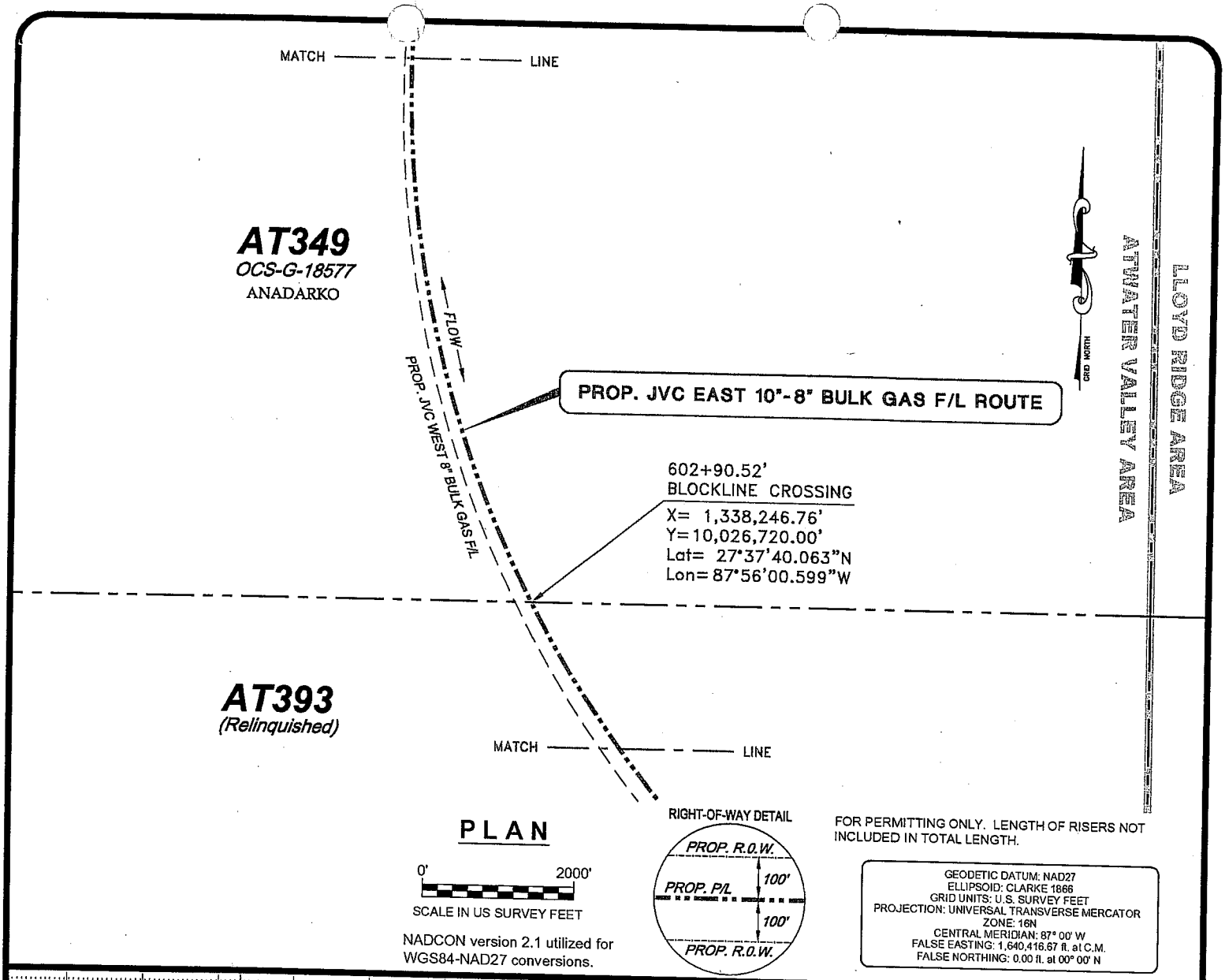
Anadarko Petroleum Corporation

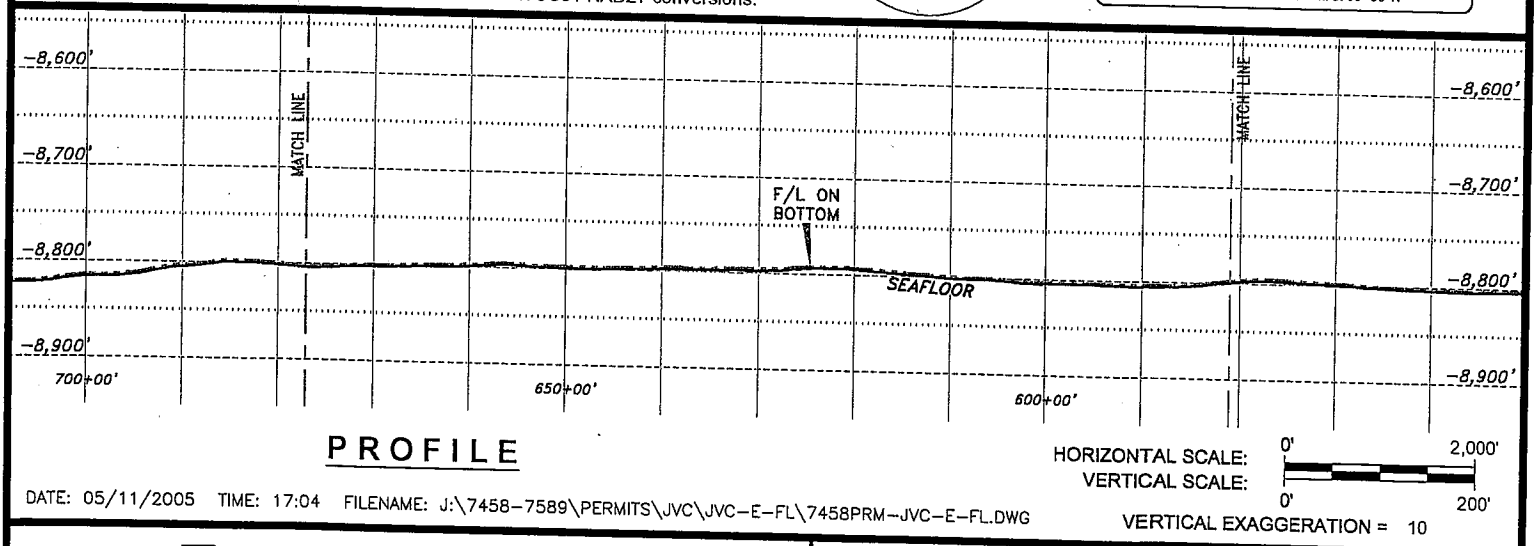
PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0560

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 5 of 24





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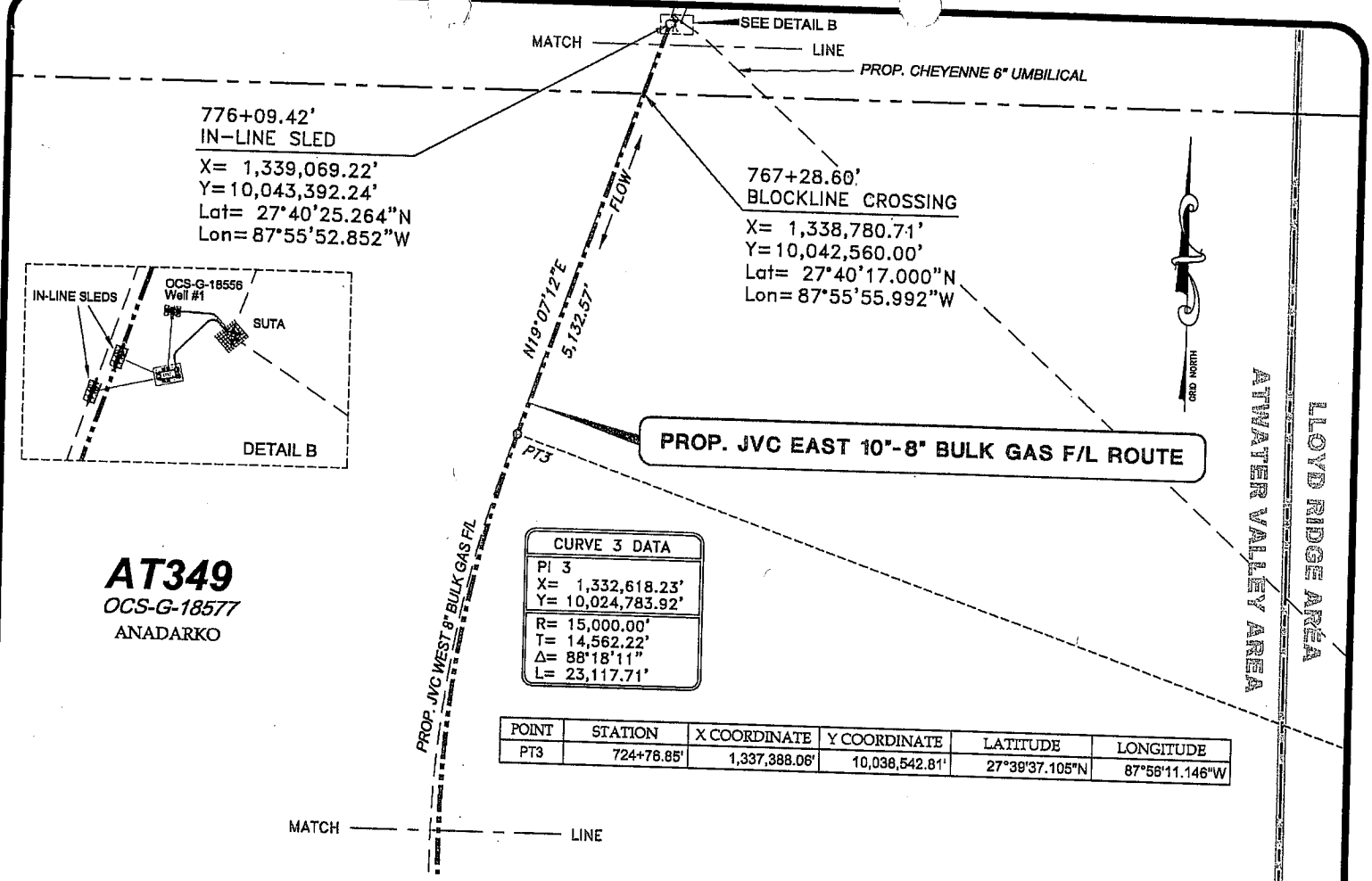
Anadarko Petroleum Corporation

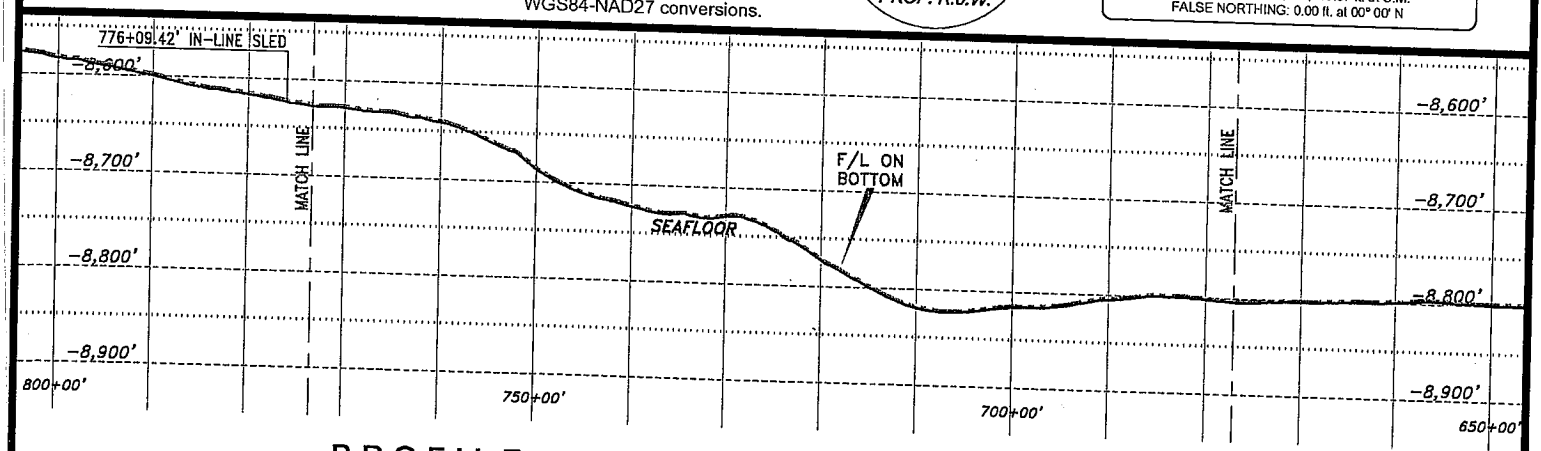
PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
	FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 6 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PT3	724+76.85'	1,337,388.06'	10,038,542.81'	27°39'37.105"N	87°56'11.146"W



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

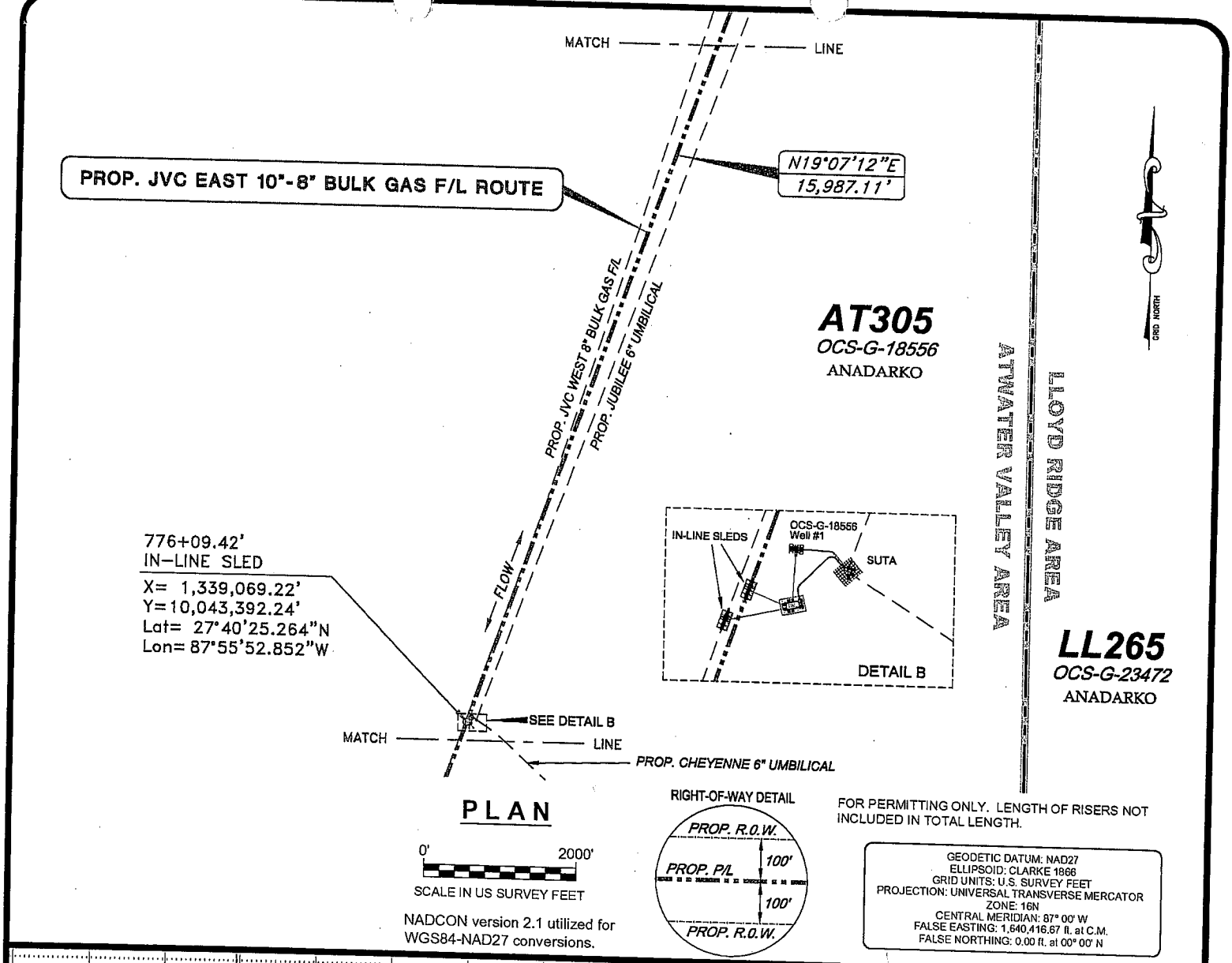
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 7 of 24



PLAN

0' 2000'

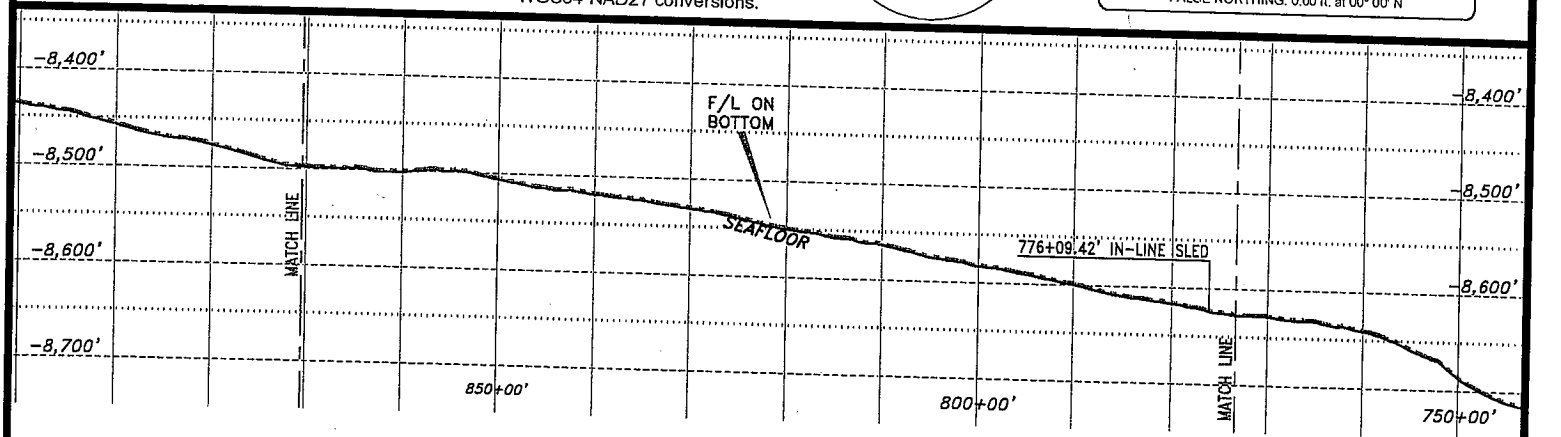
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

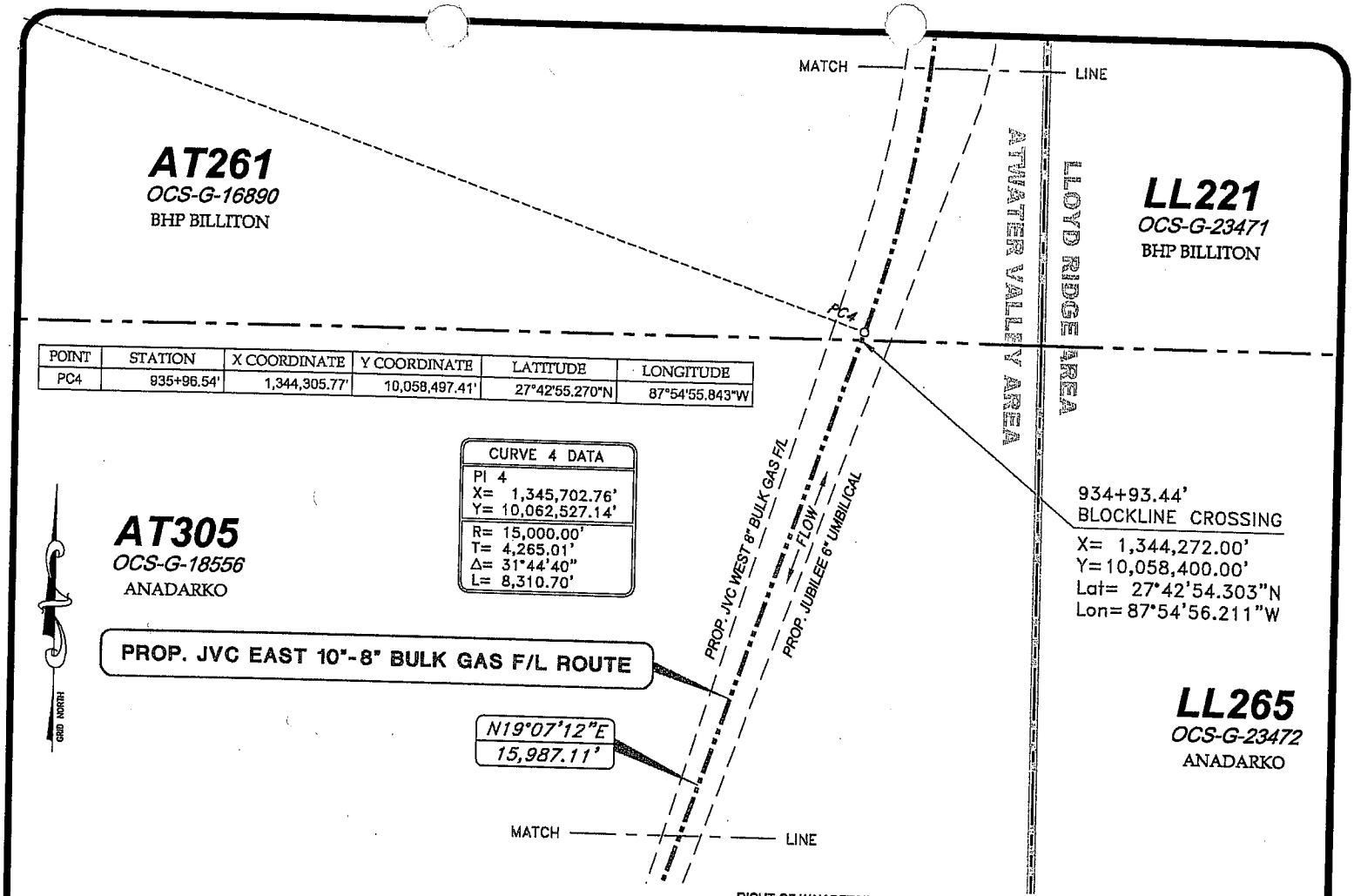
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 8 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC4	935+96.54'	1,344,305.77'	10,058,497.41'	27°42'55.270"N	87°54'55.843"W

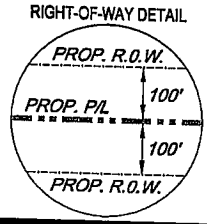
PLAN

0' 2000'

SCALE IN US SURVEY FEET

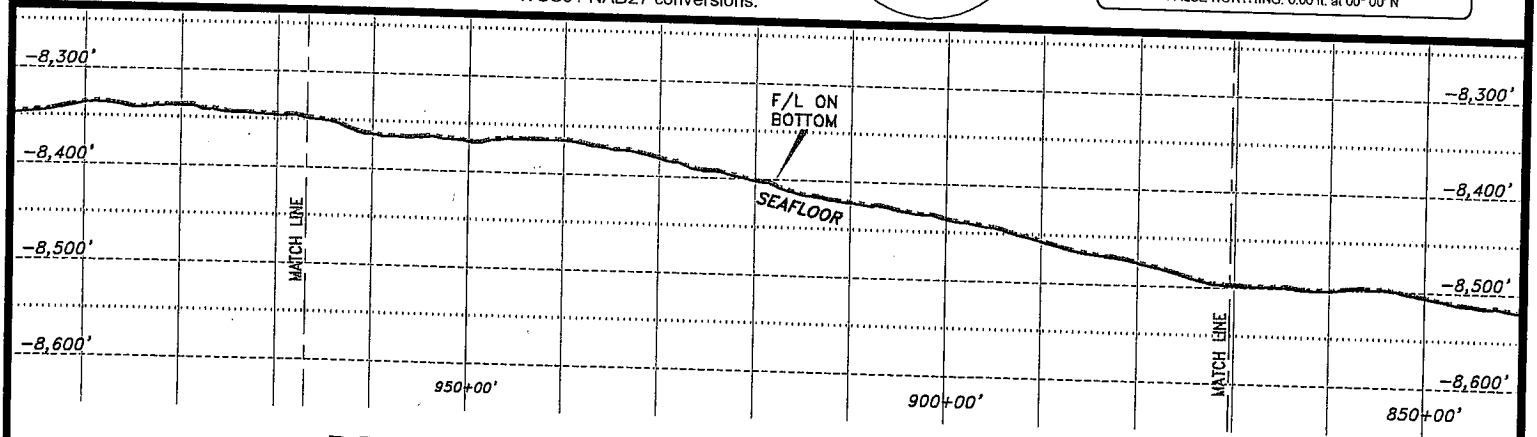
NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

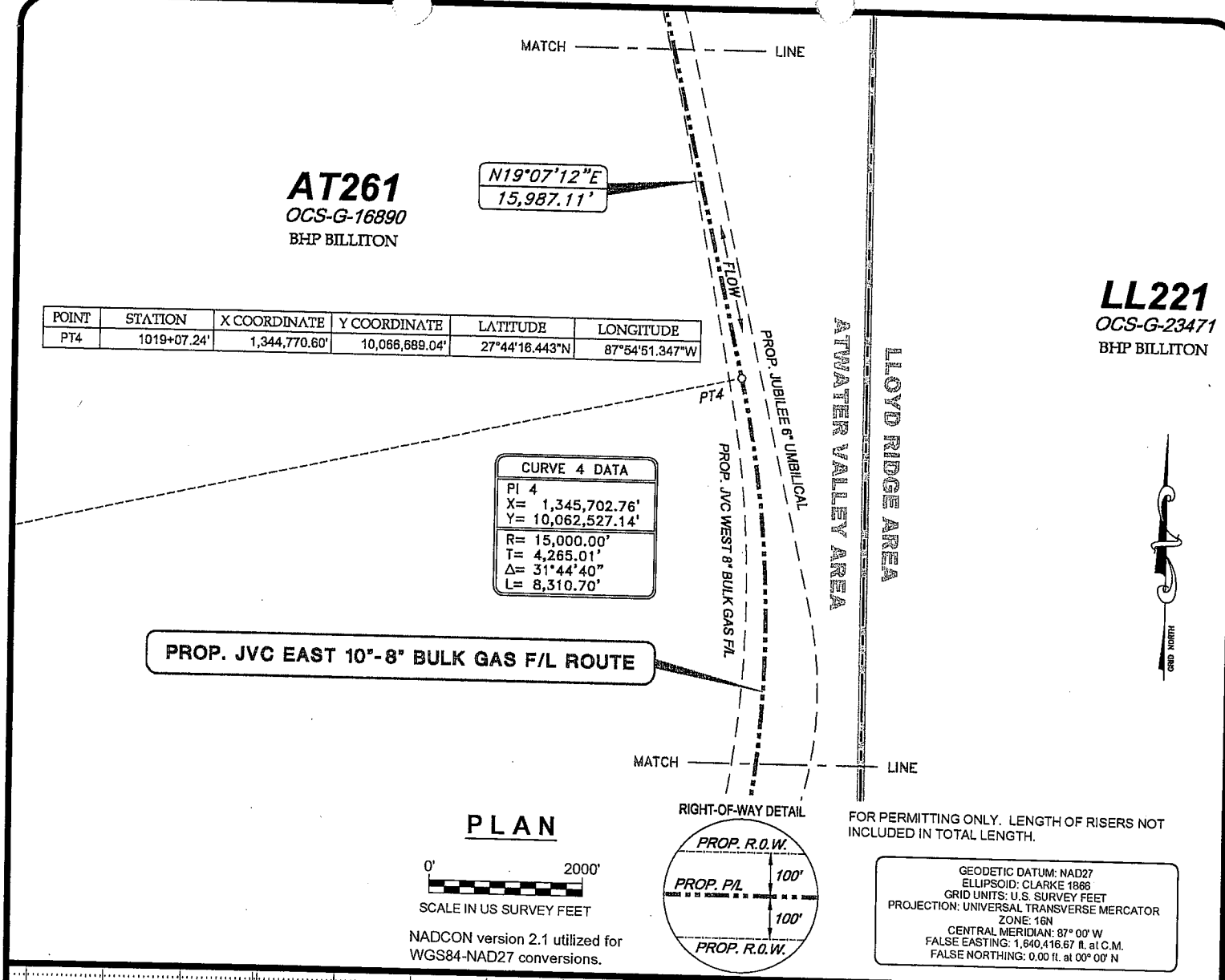
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0650

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 9 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PT4	1019+07.24'	1,344,770.60'	10,066,689.04'	27°44'16.443"N	87°54'51.347"W

PLAN

0' 2000'

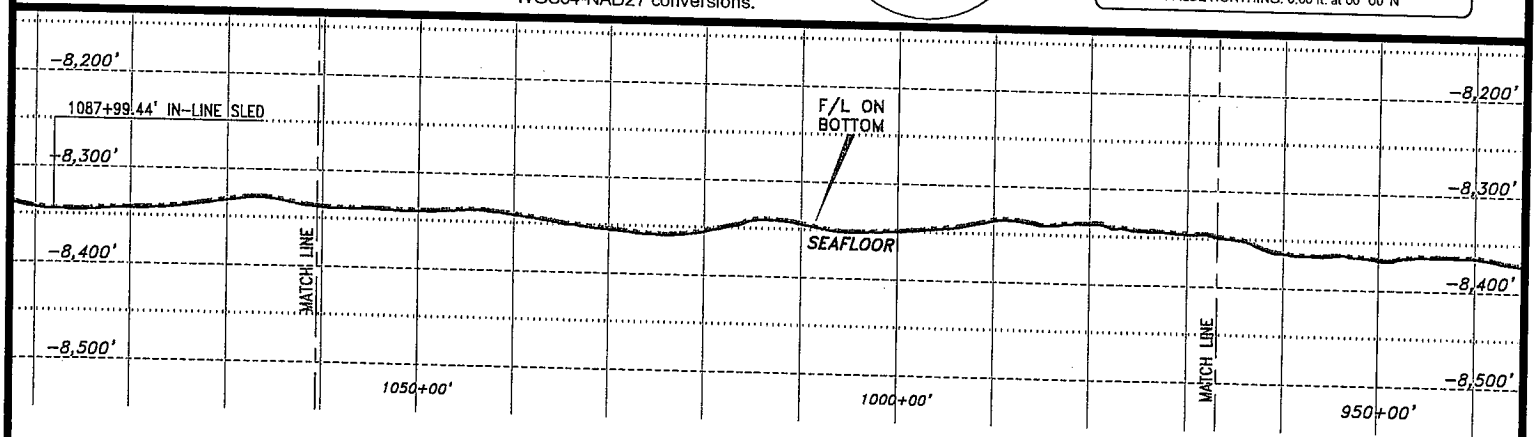
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

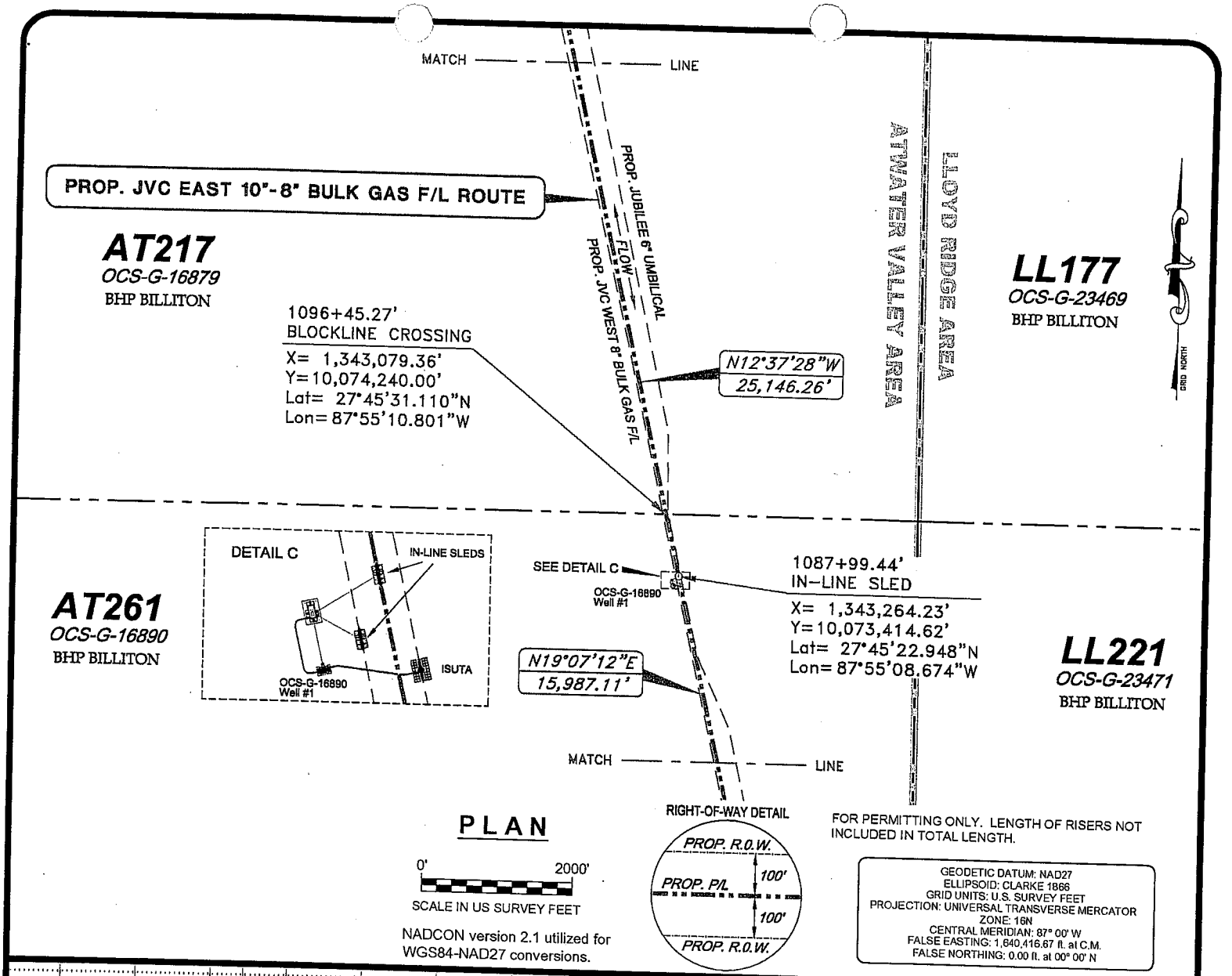
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 10 of 24



PLAN

0' 2000'

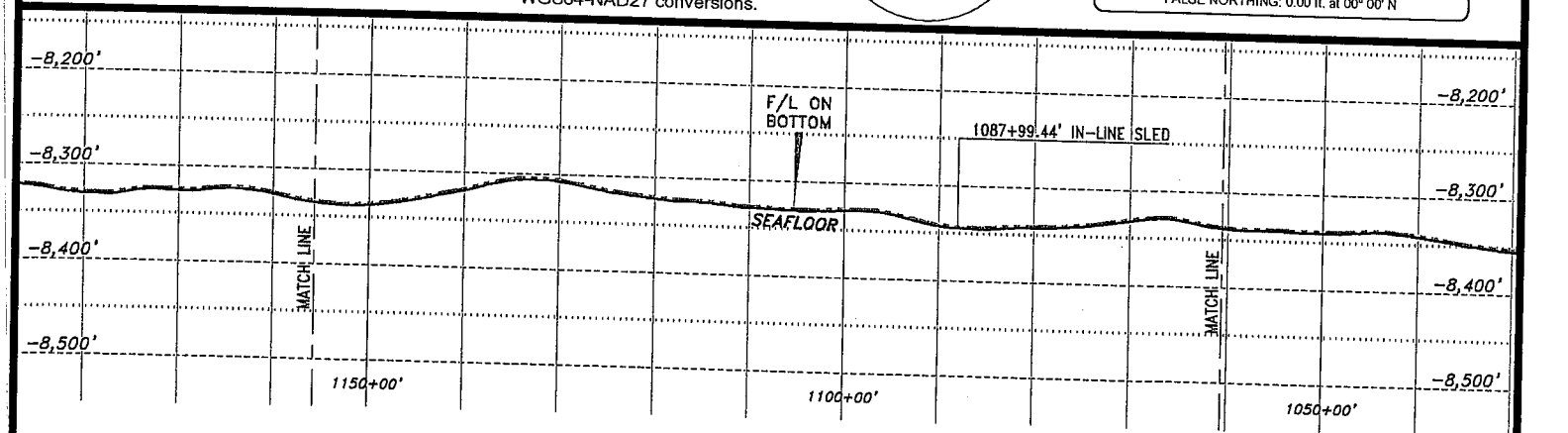
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

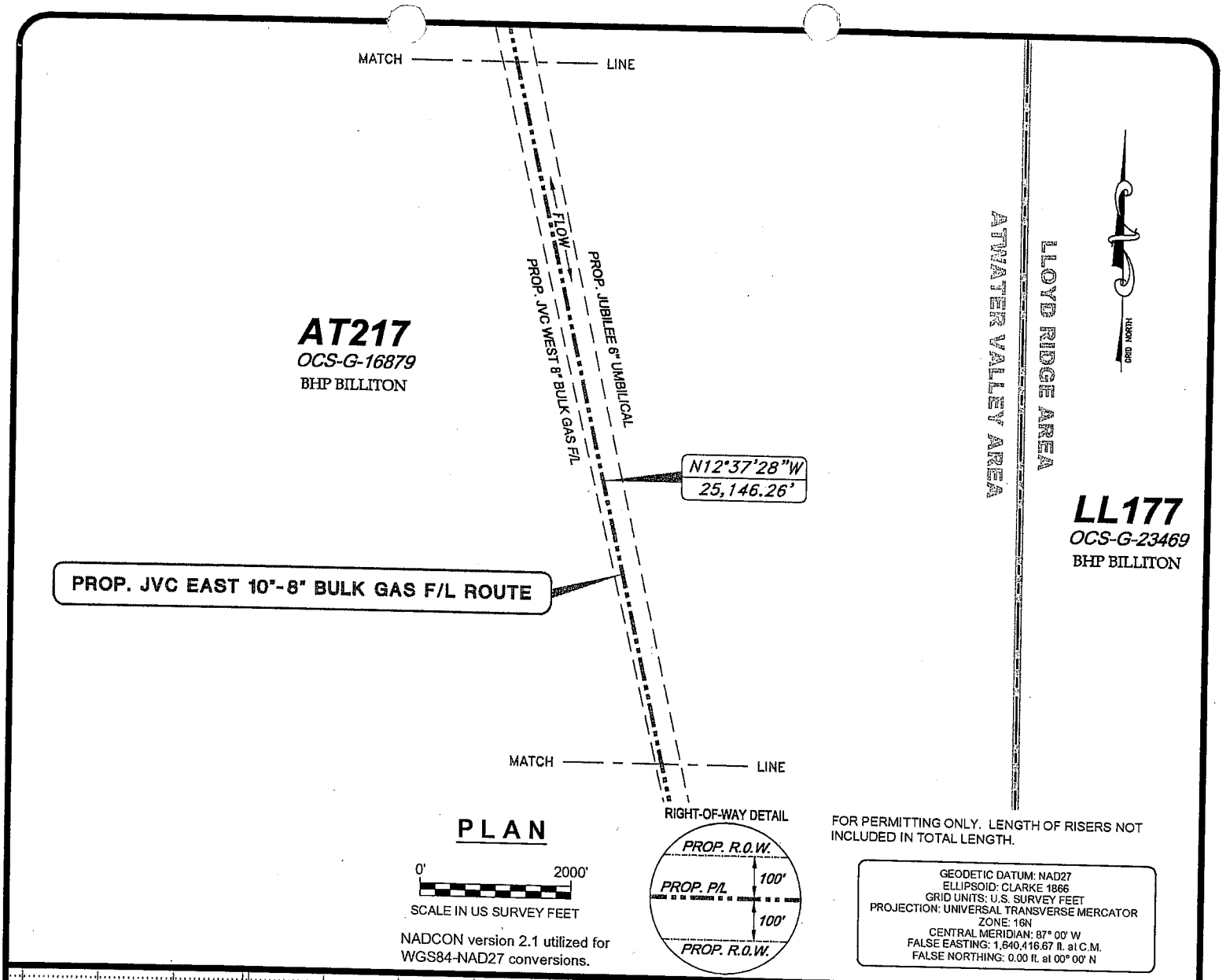
Anadarko Petroleum Corporation

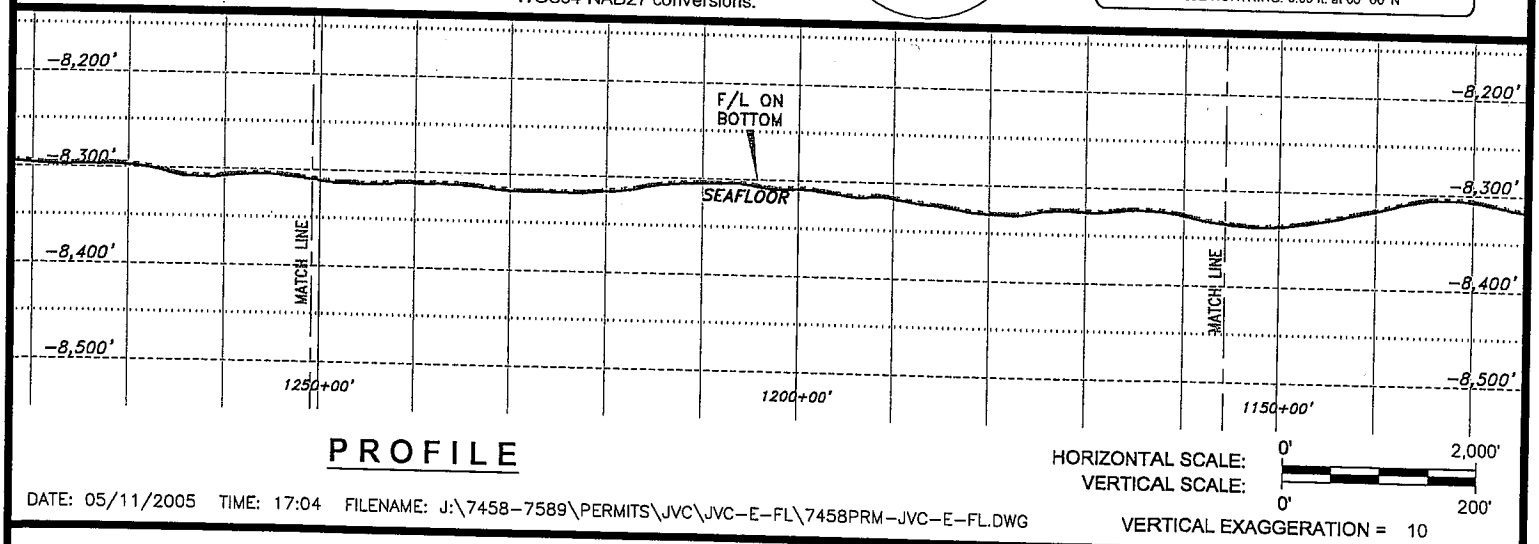
PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 11 of 24





PROFILE

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VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

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Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
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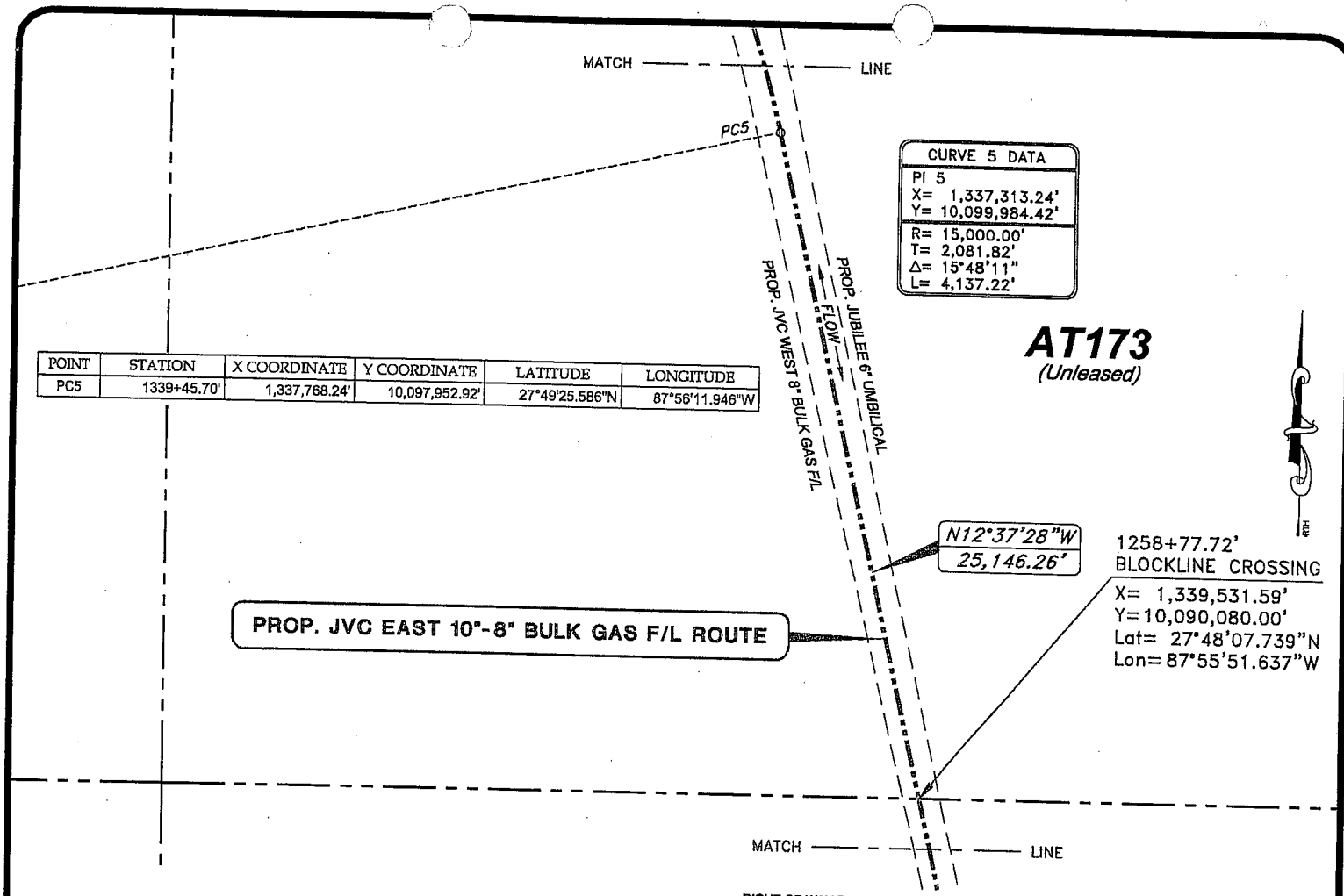
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 12 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC5	1339+45.70'	1,337,768.24'	10,097,952.92'	27°49'25.586"N	87°56'11.946"W

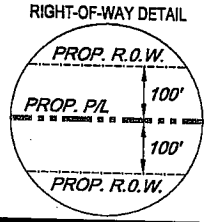
PLAN

0' 2000'

SCALE IN US SURVEY FEET

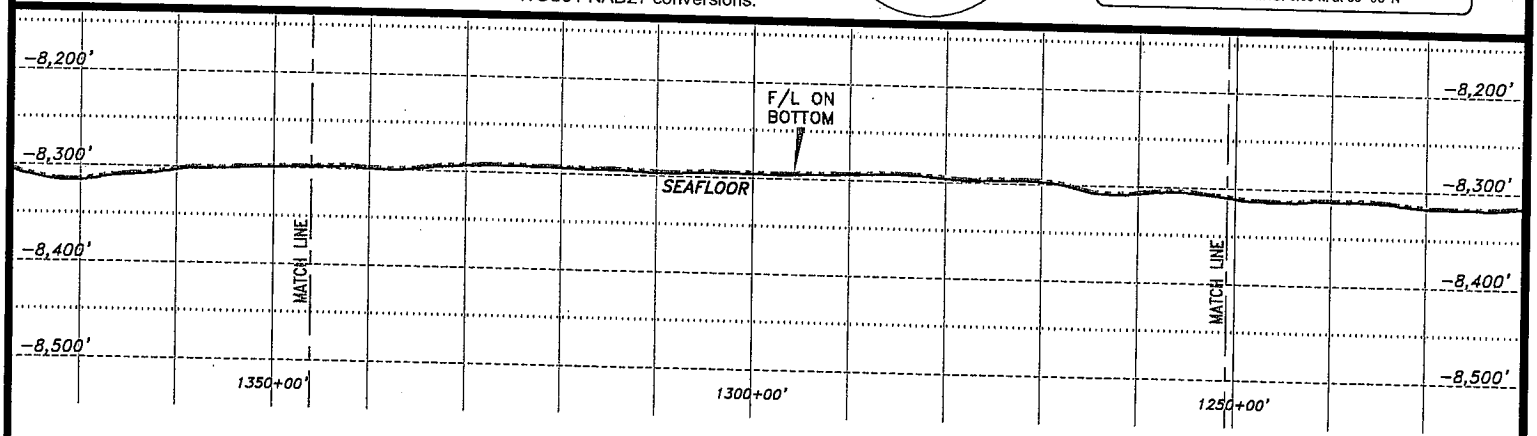
NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

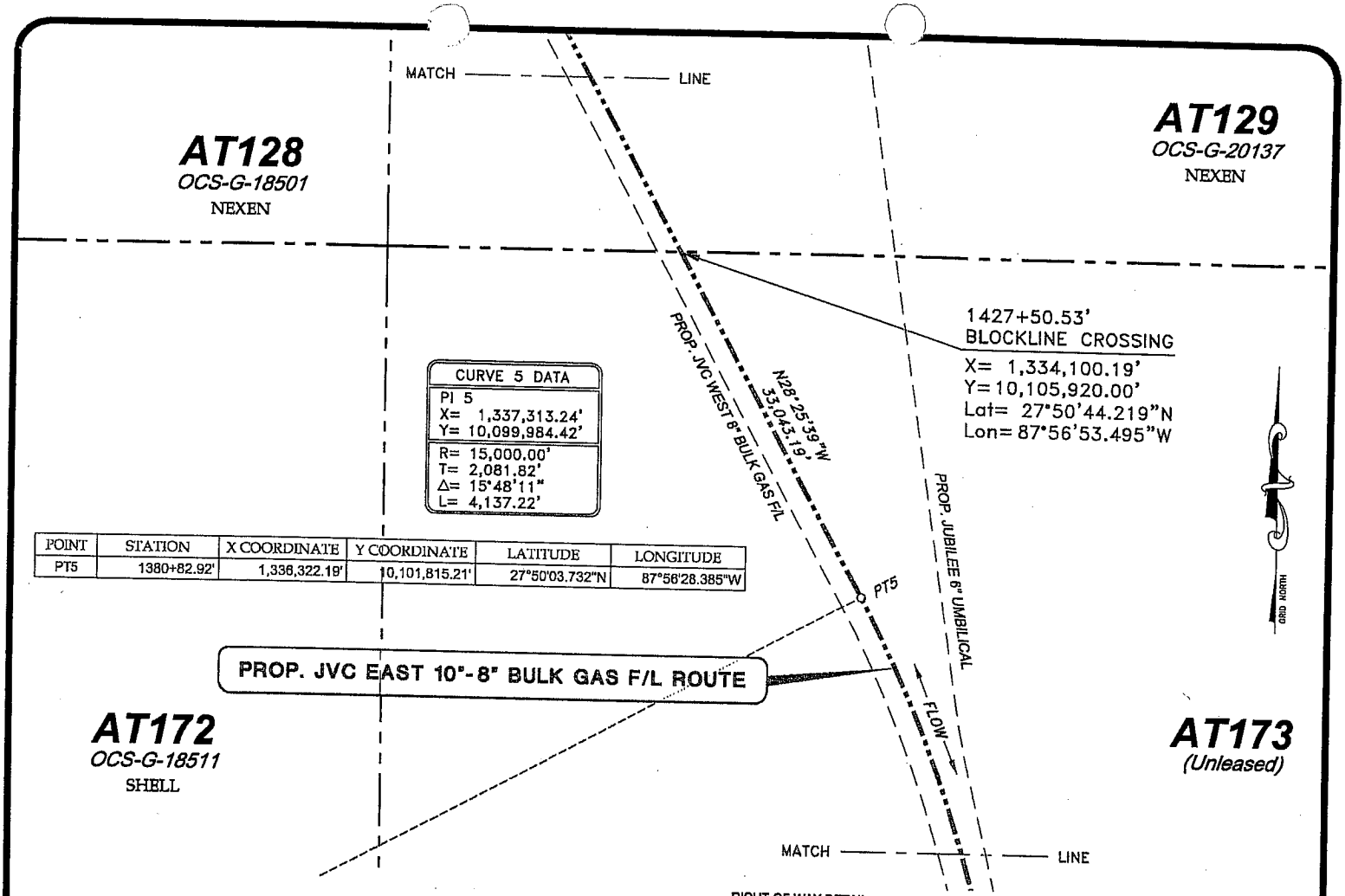
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0650

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 13 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PT5	1380+82.92'	1,336,322.19'	10,101,815.21'	27°50'03.732"N	87°56'28.385"W

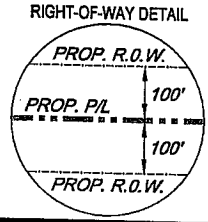
PLAN

0' 2000'

SCALE IN US SURVEY FEET

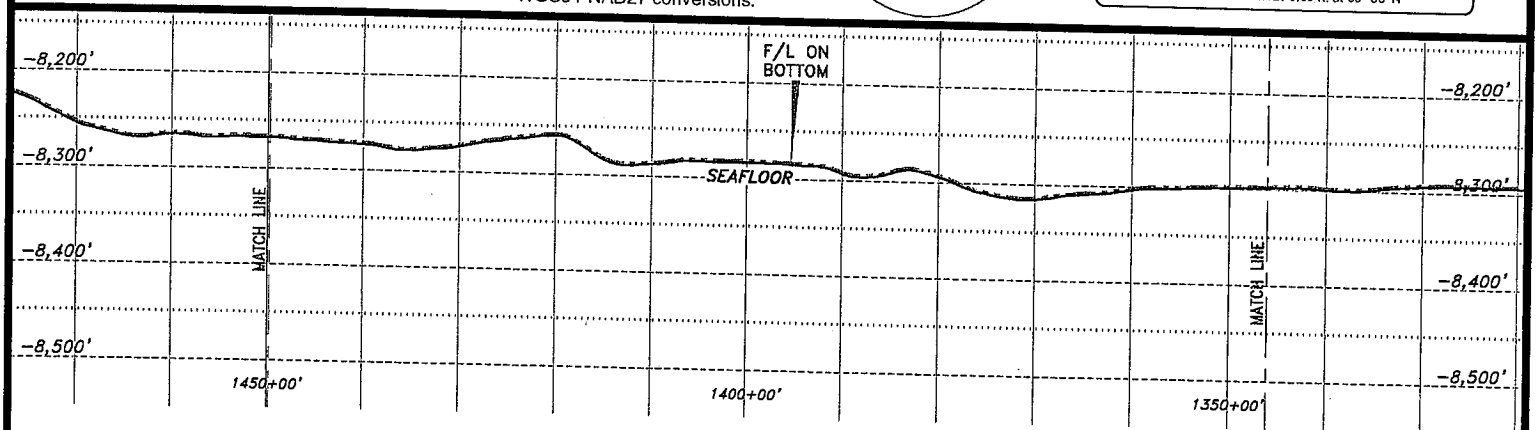
NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

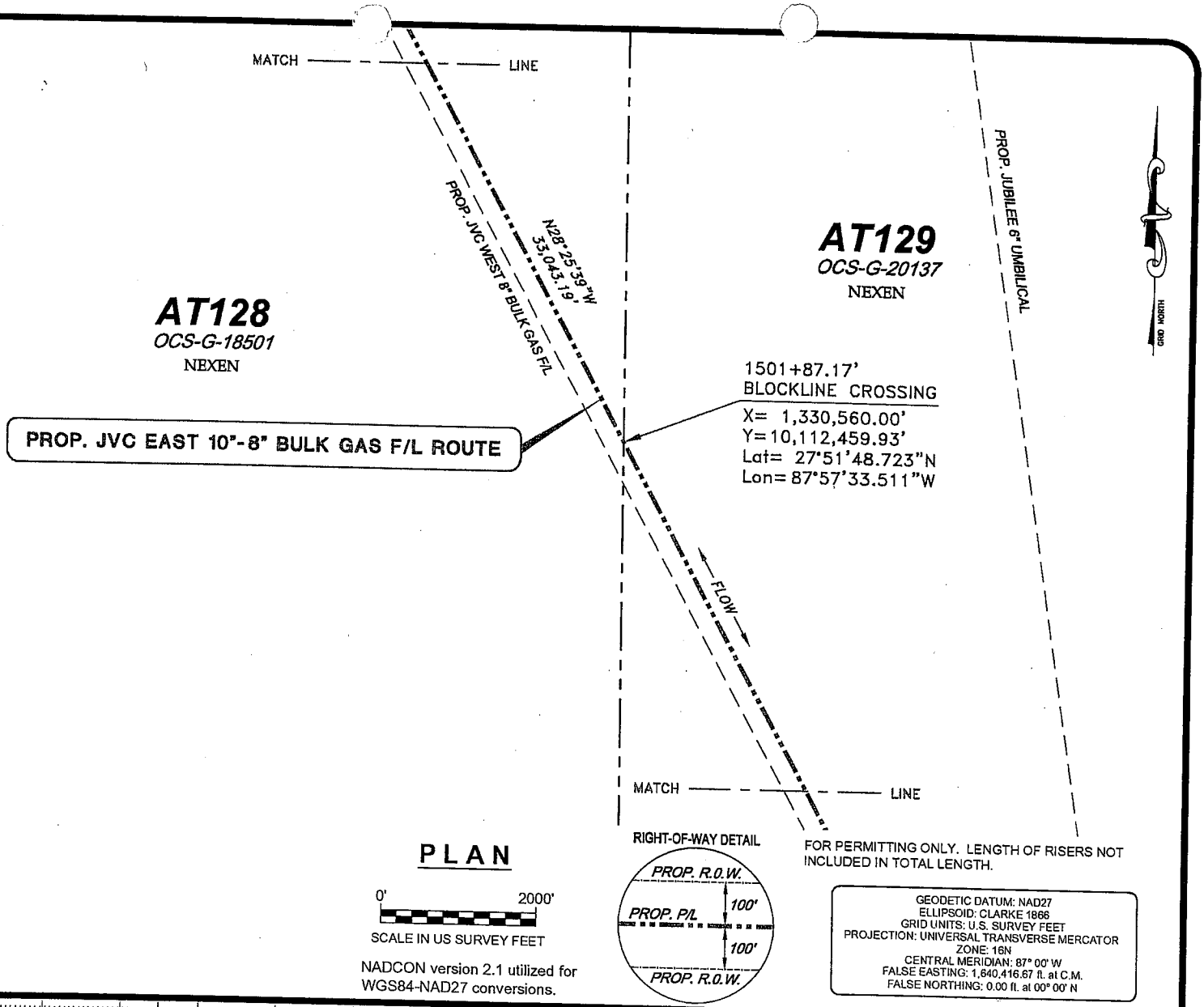
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005



PLAN

0' 2000'

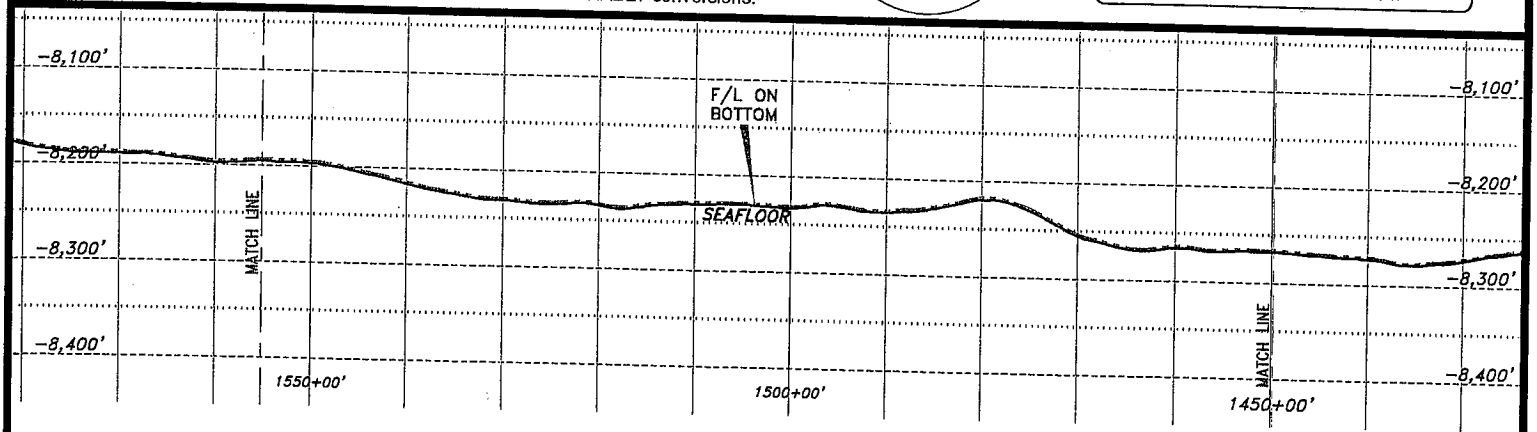
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

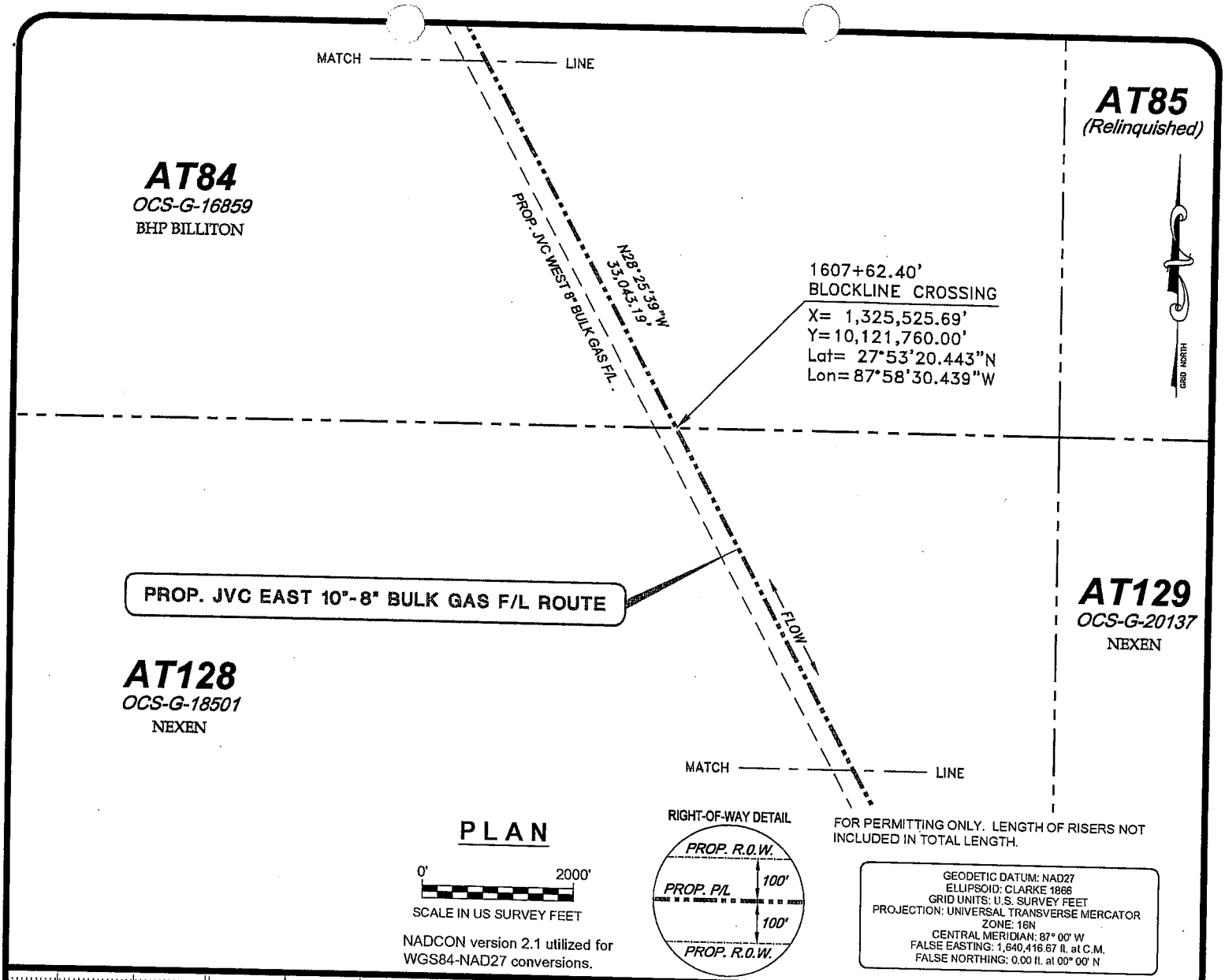
DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
	FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 15 of 24



PLAN

0' 2000'

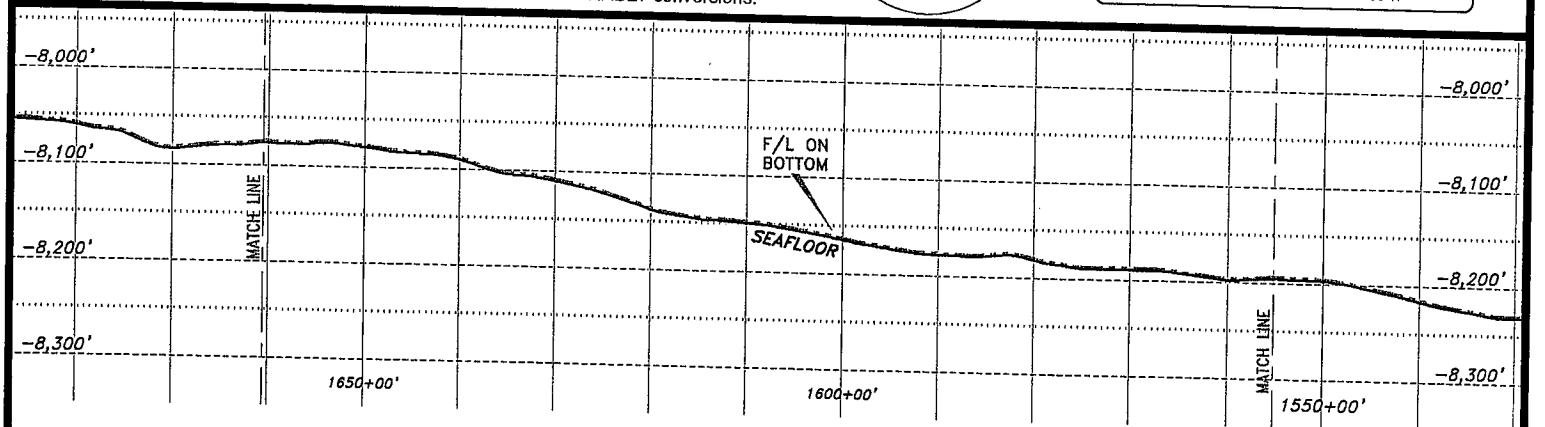
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 fl. at C.M.
FALSE NORTHING: 0.00 fl. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

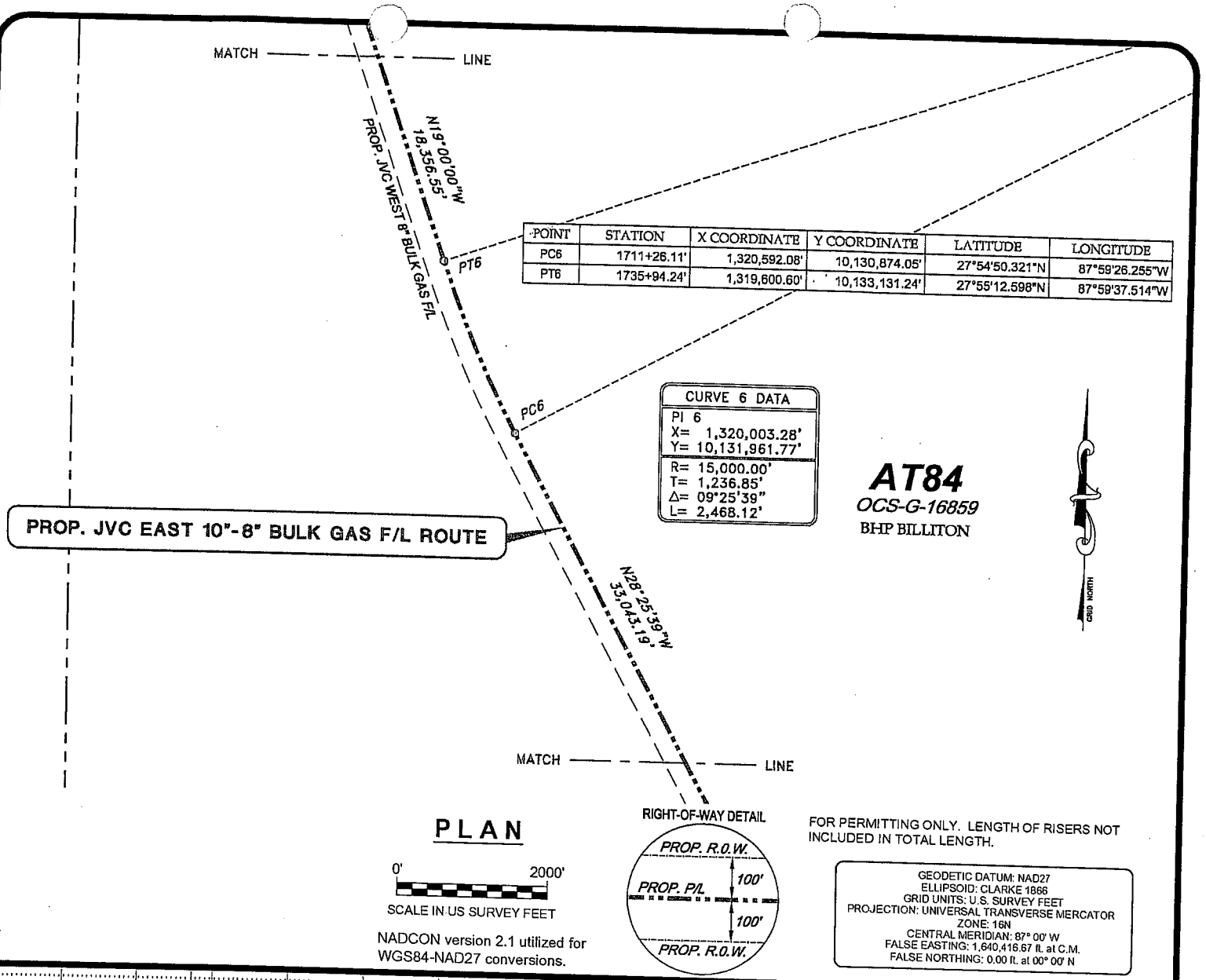
Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 16 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC6	1711+26.11'	1,320,592.08'	10,130,874.05'	27°54'50.321"N	87°59'26.255"W
PT6	1735+94.24'	1,319,600.60'	10,133,131.24'	27°55'12.598"N	87°59'37.514"W

CURVE 6 DATA
PI 6 X= 1,320,003.28' Y= 10,131,961.77'
R= 15,000.00' T= 1,236.85' Δ= 09°25'39" L= 2,468.12'

AT84
OCS-G-16859
BHP BILLITON

PLAN

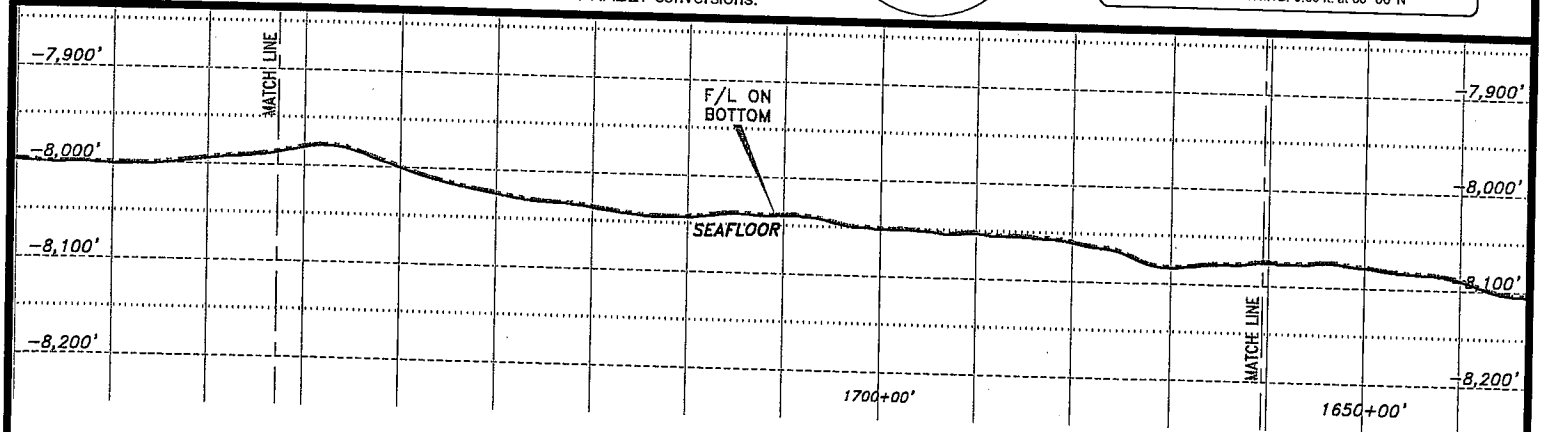
0' 2000'
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

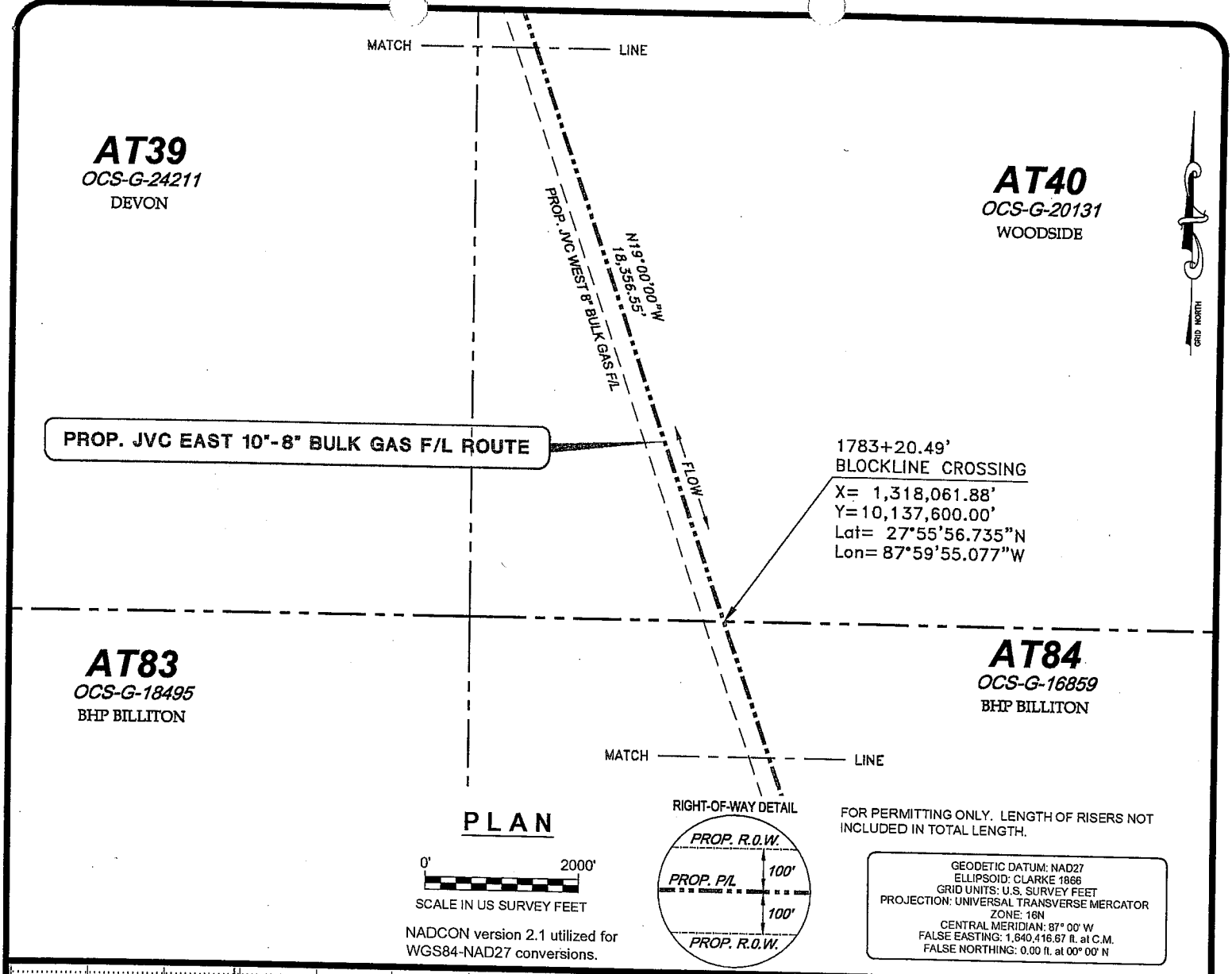
Anadarko Petroleum Corporation

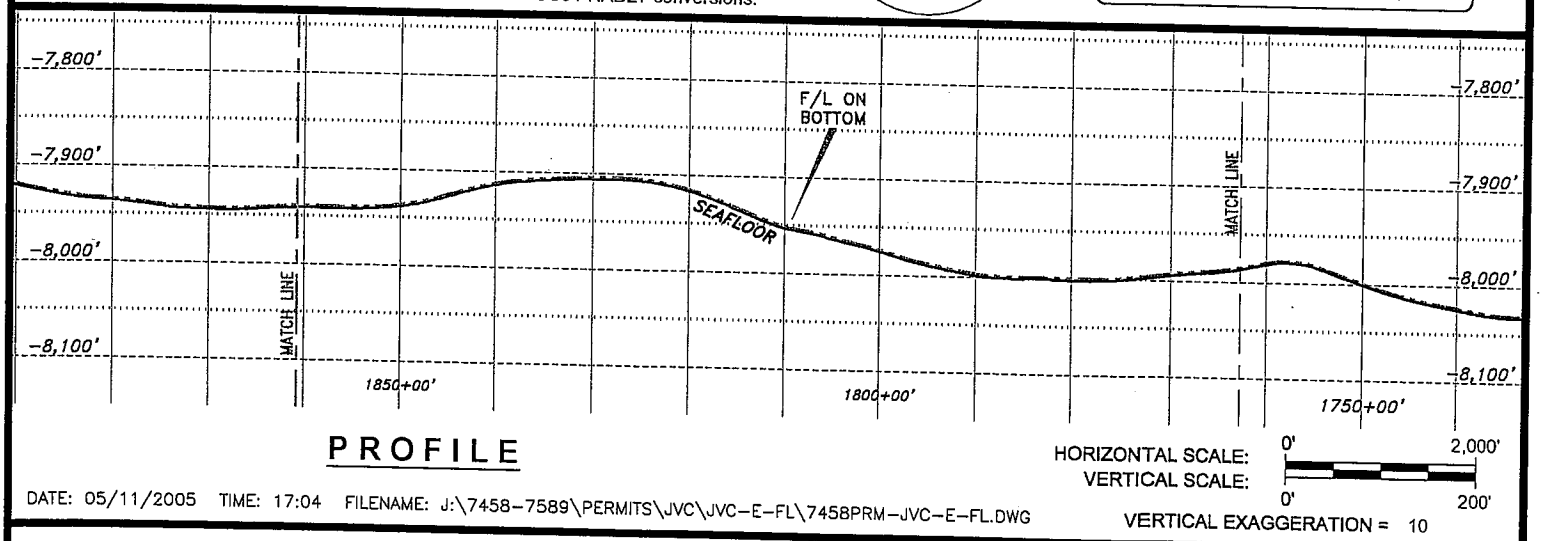
PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005





DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

Anadarko Petroleum Corporation

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Lloyd Ridge Area to
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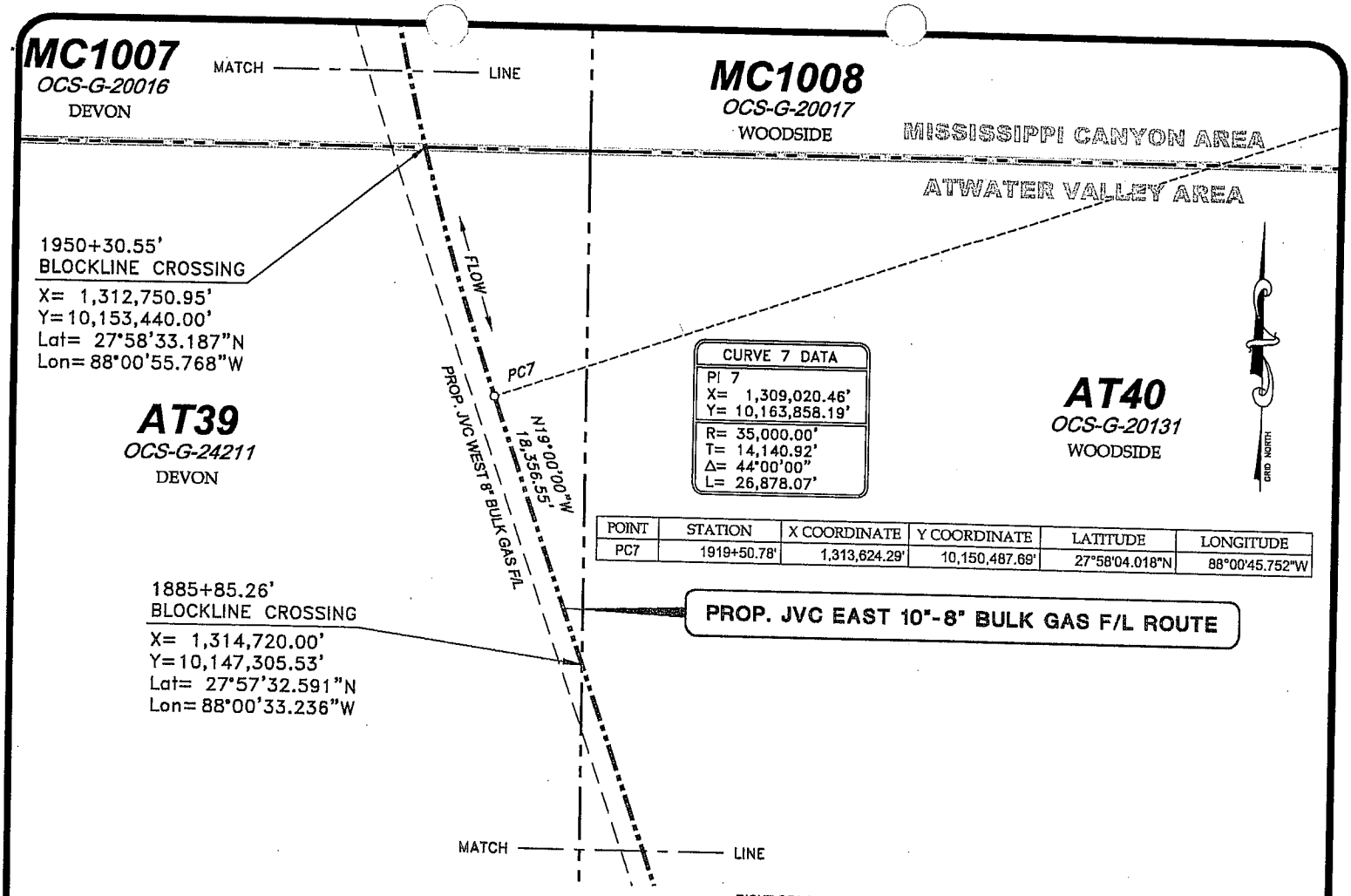
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
	FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 18 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC7	1919+50.78'	1,313,624.29'	10,150,487.69'	27°56'04.018"N	88°00'45.752"W

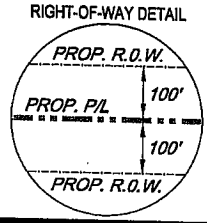
PLAN

0' 2000'

SCALE IN US SURVEY FEET

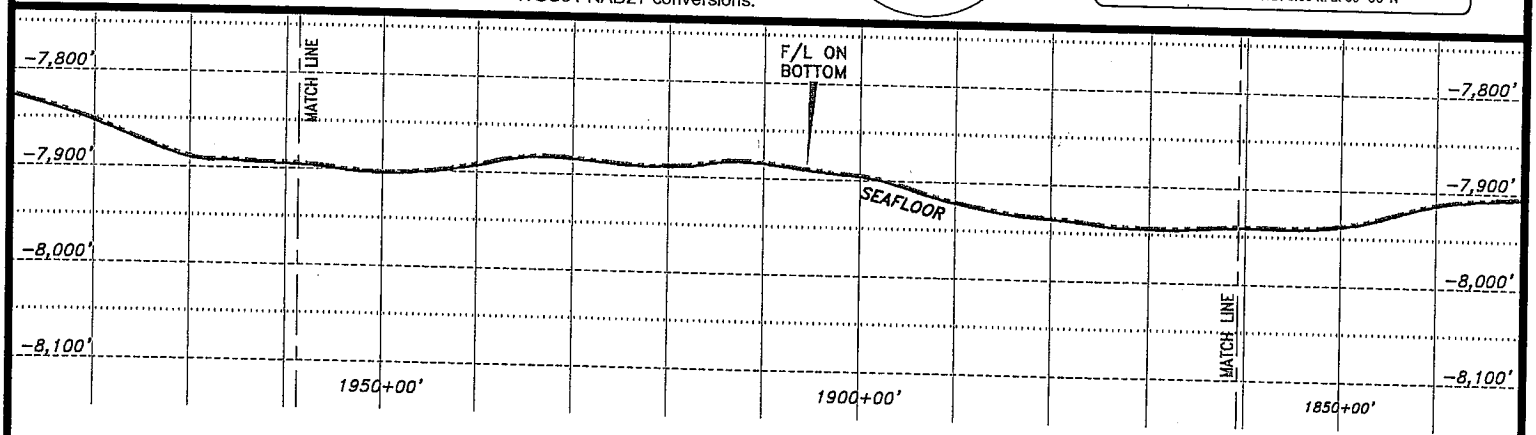
NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

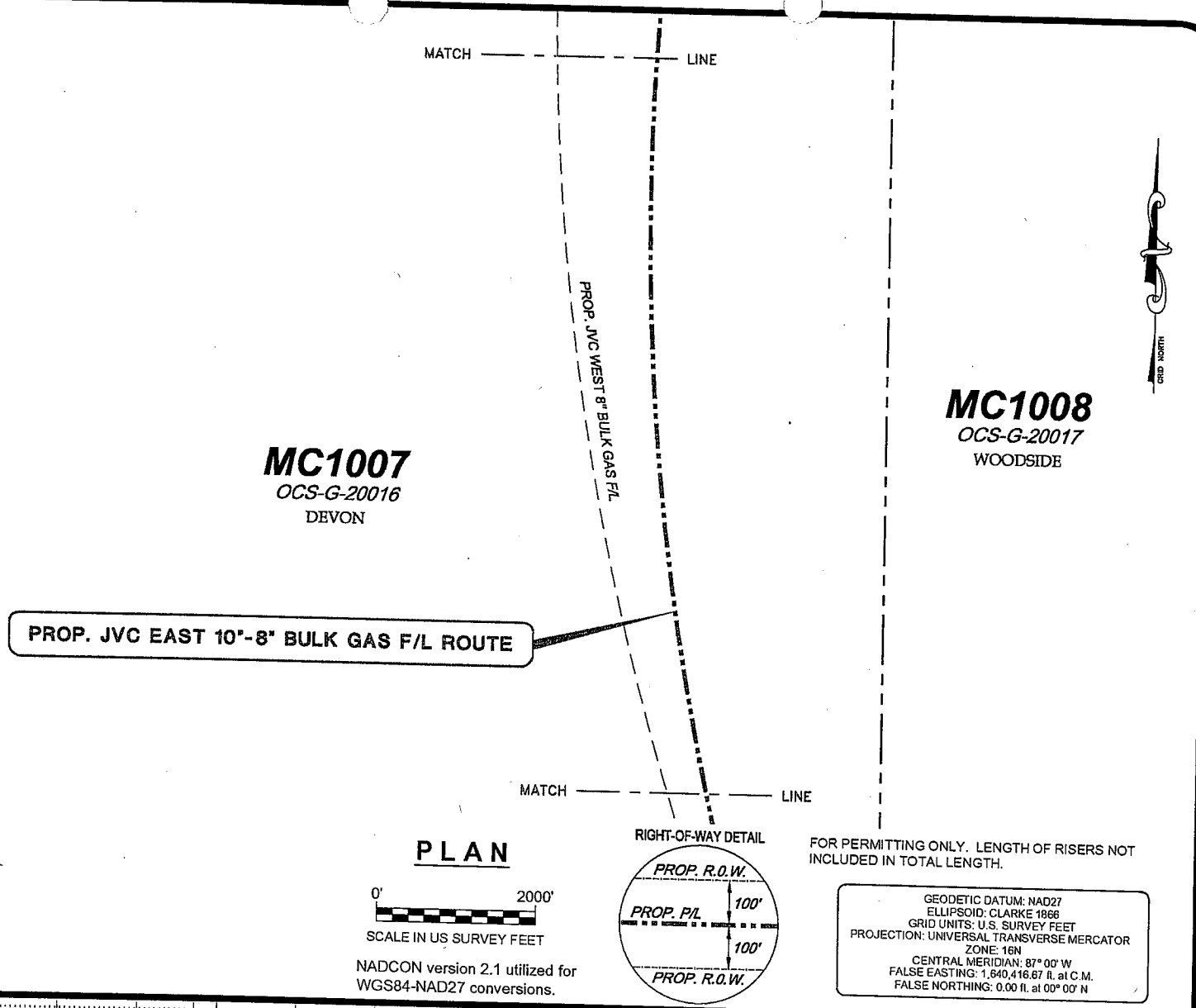
DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
	FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 19 of 24



PLAN

0' 2000'

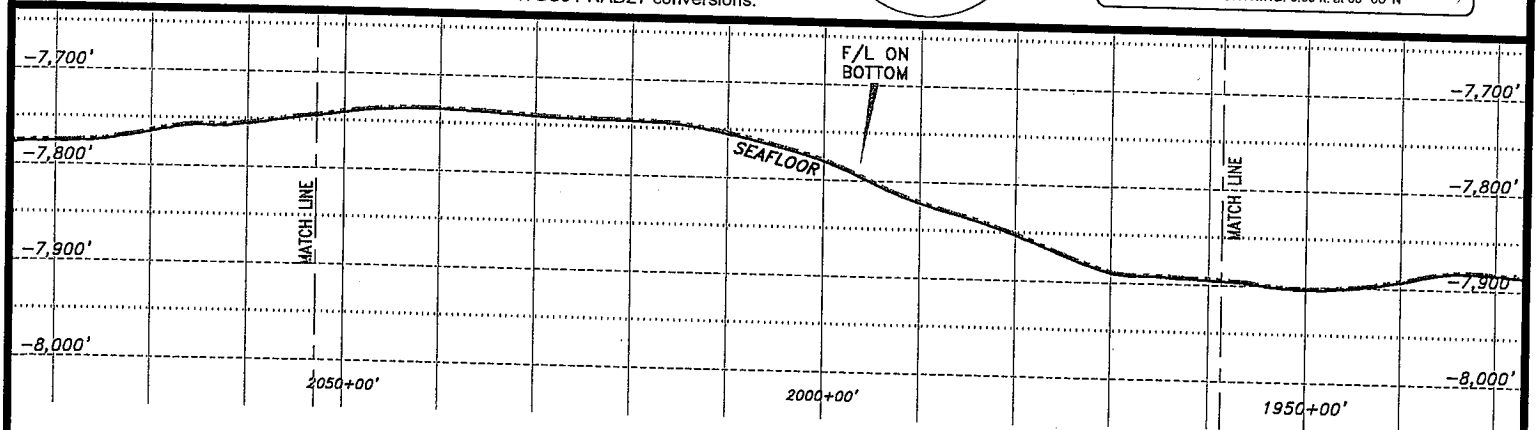
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

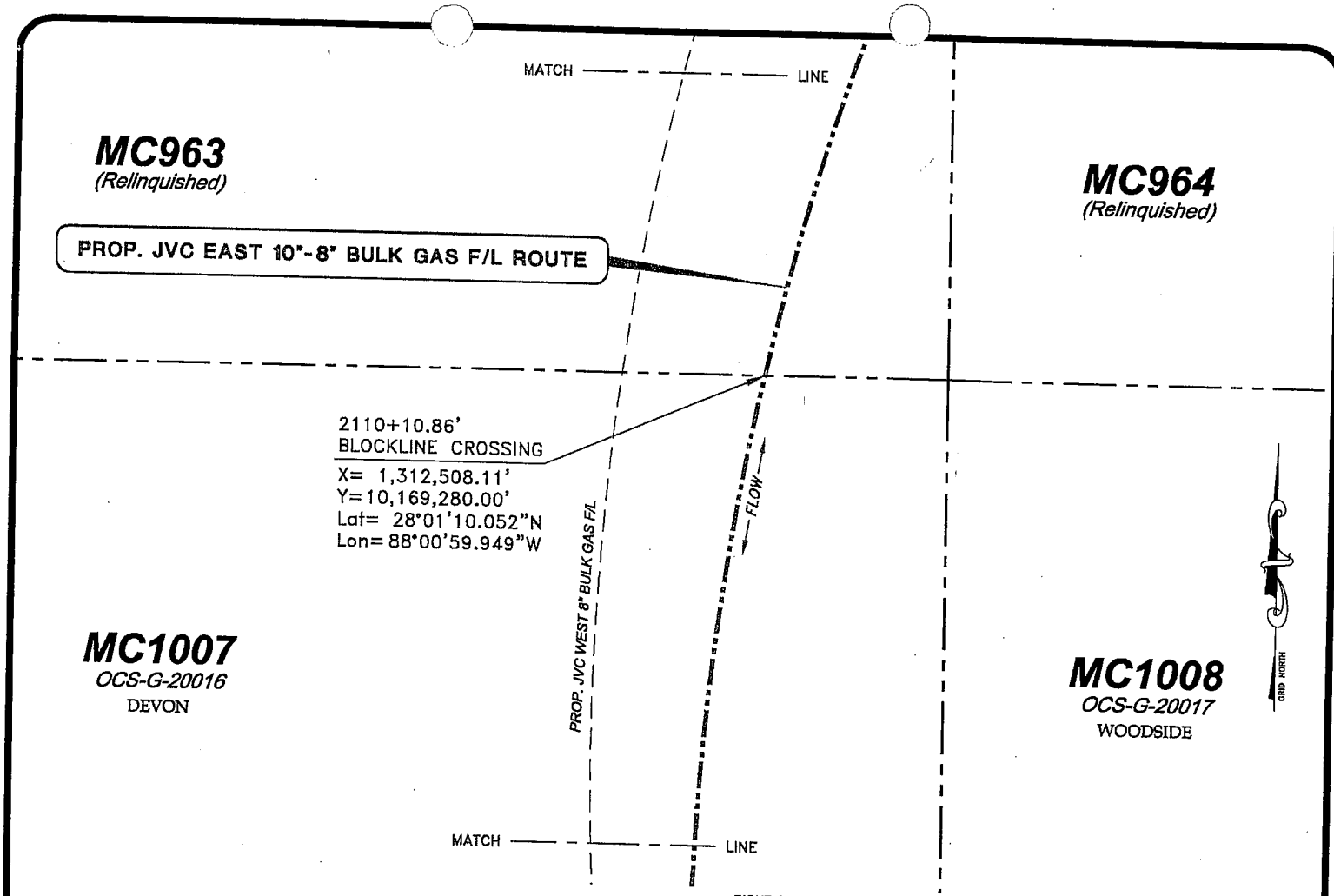
DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY:	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 20 of 24



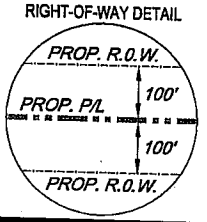
PLAN

0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



FOR PERMITTING ONLY. LENGTH OF RISERS NOT INCLUDED IN TOTAL LENGTH.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
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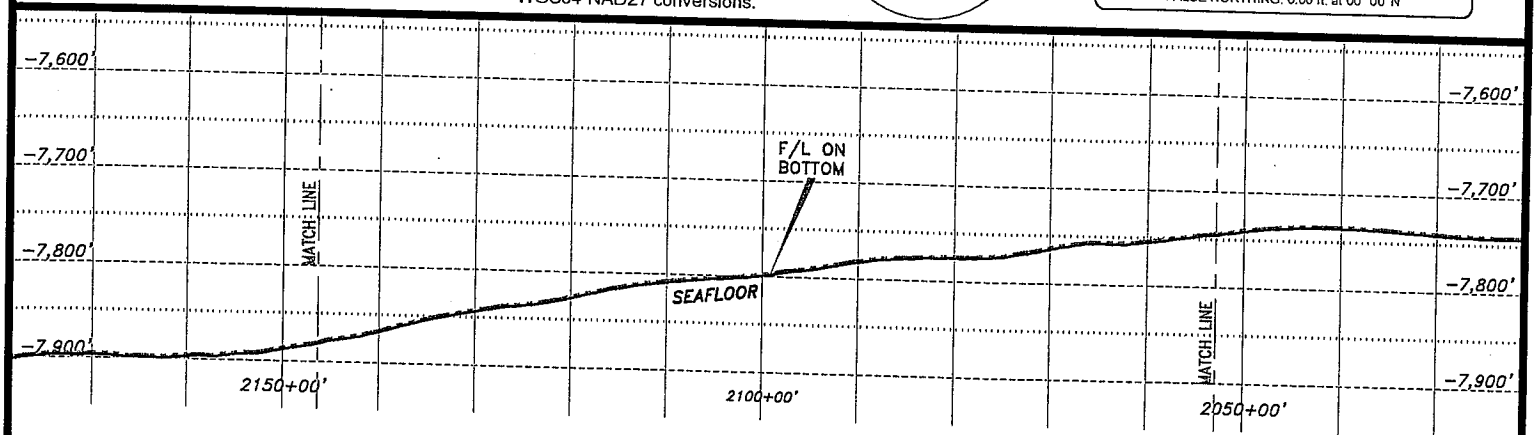

PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

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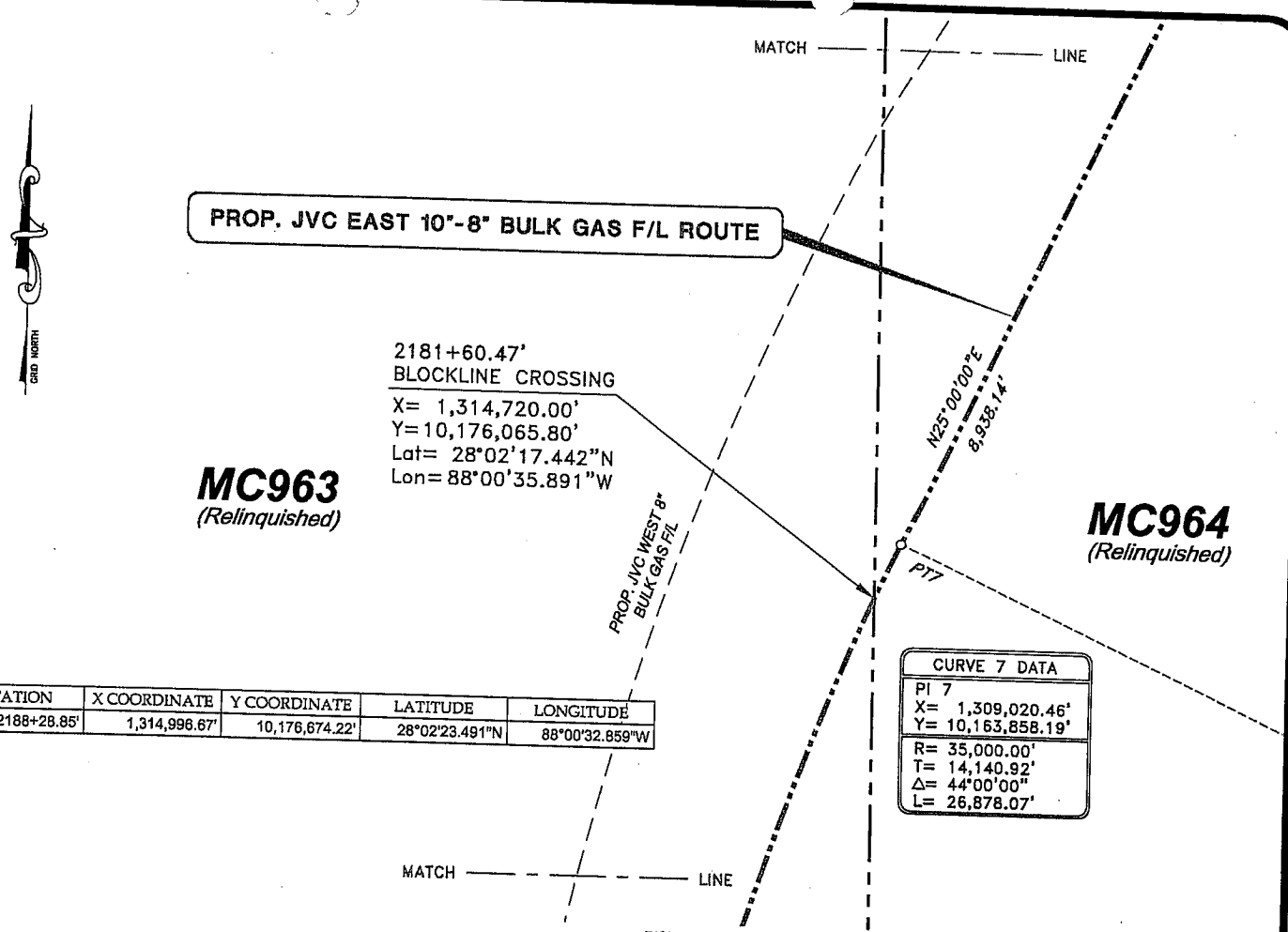
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 21 of 24



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PT7	2188+28.85'	1,314,996.67'	10,176,674.22'	28°02'23.491"N	88°00'32.859"W

CURVE 7 DATA
PI 7 X= 1,309,020.46' Y= 10,163,858.19'
R= 35,000.00' T= 14,140.92' Δ= 44°00'00" L= 26,878.07'

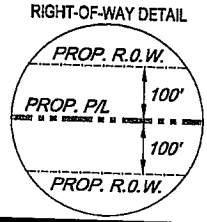
PLAN

0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



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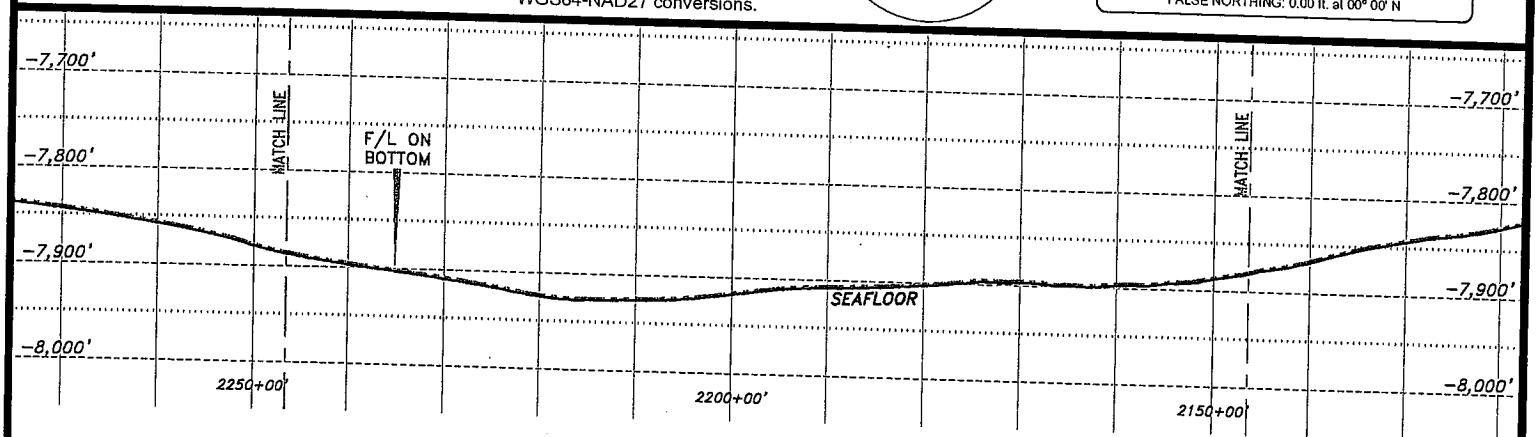
GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
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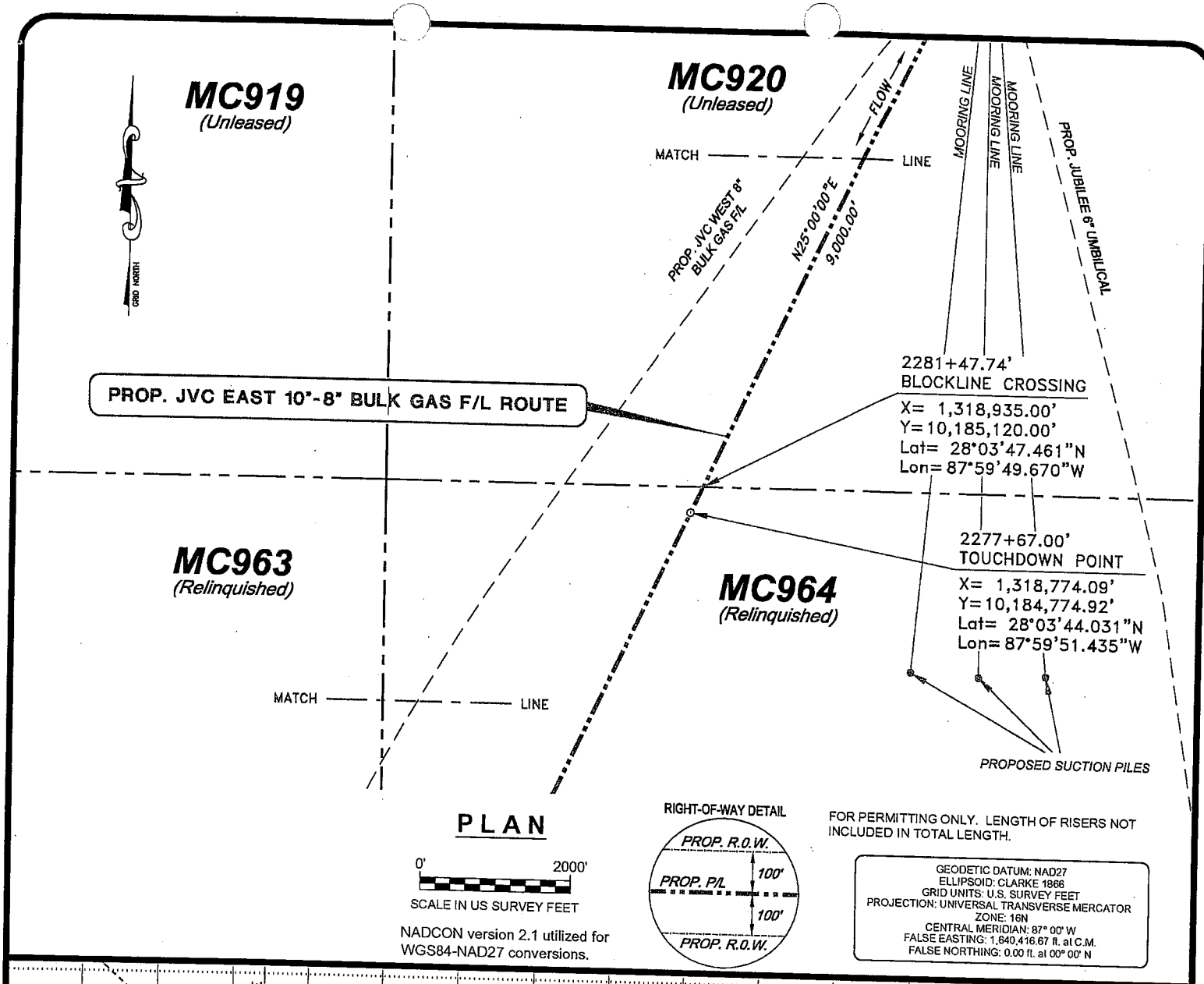
PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JVC-E-FL.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 22 of 24



PLAN

0' 2000'

SCALE IN US SURVEY FEET

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RIGHT-OF-WAY DETAIL

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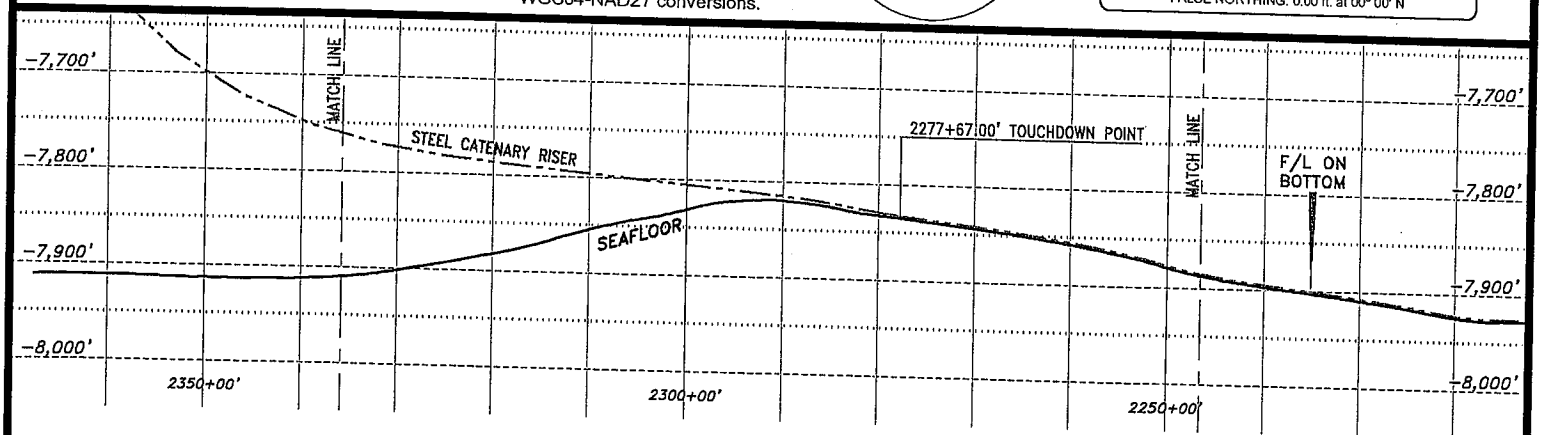

PROFILE

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VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

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Anadarko Petroleum Corporation

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730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589

FILENAME: 7458PRM-JVC-E-FL.DWG

REVISED:

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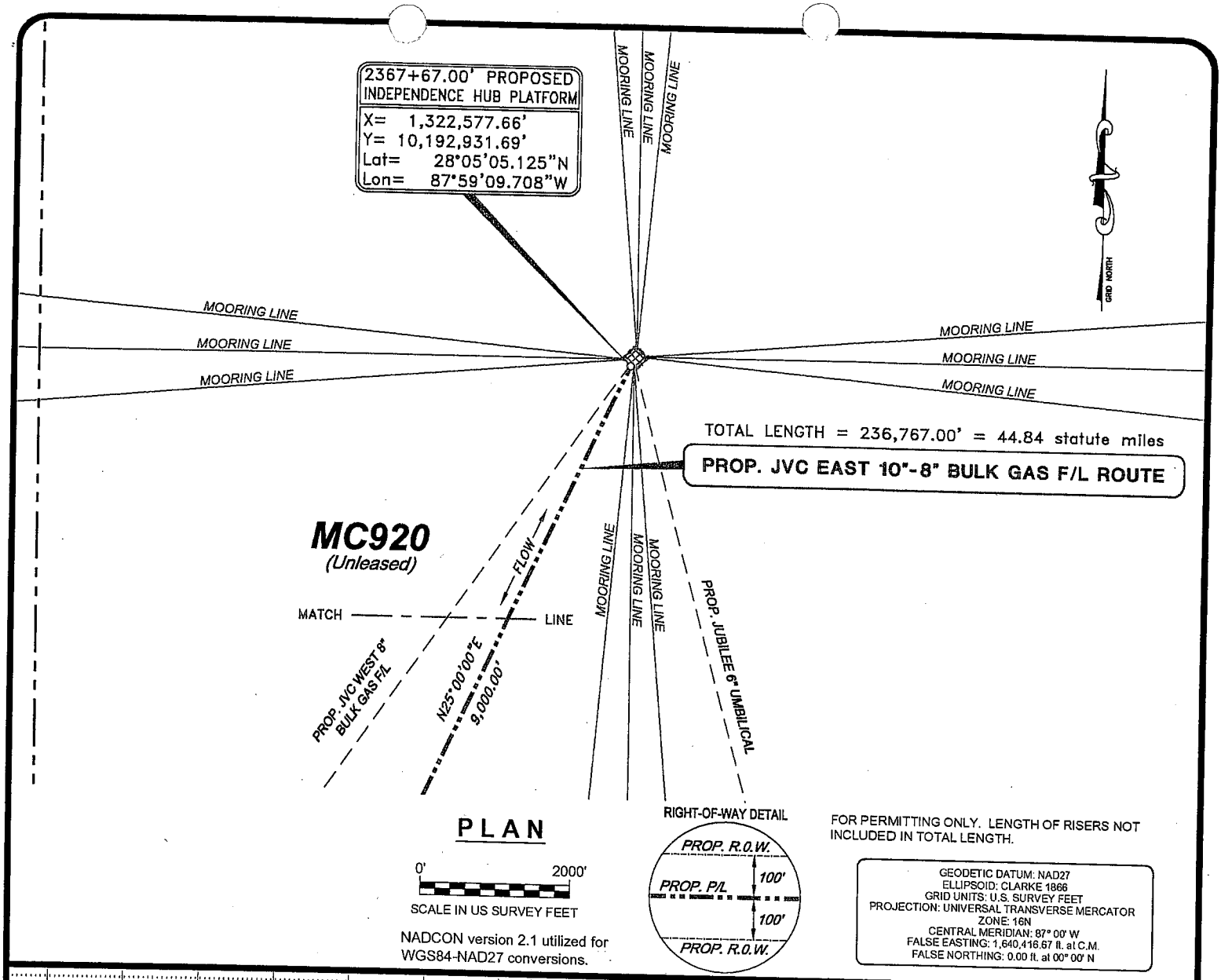

PLAN

0' 2000'

SCALE IN US SURVEY FEET

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RIGHT-OF-WAY DETAIL

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ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
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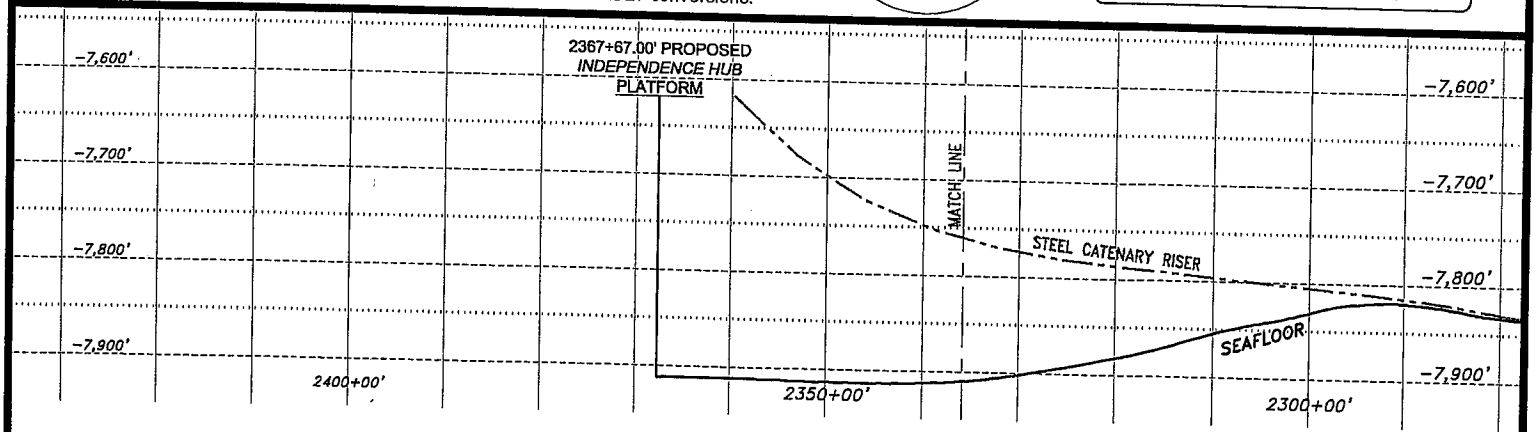

PROFILE

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VERTICAL SCALE: 0' 200'
VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:04 FILENAME: J:\7458-7589\PERMITS\JVC\JVC-E-FL\7458PRM-JVC-E-FL.DWG

Anadarko Petroleum Corporation

PROP. JVC EAST 10"-8" BULK GAS F/L ROUTE

Block 399 Proposed Well #2 (PLET)
Lloyd Ridge Area to
Block 920 Independence Hub Platform
Mississippi Canyon Area

PREPARED BY:

C&C Technologies
SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
FILENAME: 7458PRM-JVC-E-FL.DWG		SHEET 24 of 24

POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
SUTA	00+00.00'	1,391,475.59'	9,999,989.25'	27°33'18.913"N	87°46'06.813"W
PC1	75+07.16'	1,384,618.02'	10,003,043.94'	27°33'48.744"N	87°47'23.241"W

TOTAL LENGTH = 68,359.21' = 12.95 statute miles

PROPOSED CHEYENNE 6" UMBILICAL

MATCH LINE
PROP. JVC EAST 10"-8" BULK GAS F/L
PROP. JVC WEST 8" BULK GAS F/L
PC1

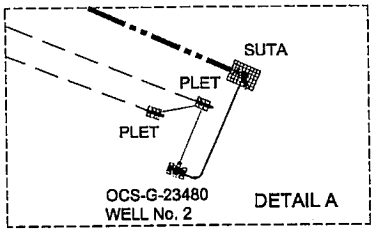
CURVE 1 DATA
PI 1 X= 1,382,399.29' Y= 10,004,032.27'
R= 15,000.00' T= 2,428.90' Δ= 18°23'45" L= 4,816.00'

N65°59'22"W
7,507.16'

LL399
OCS-G-23480
SHELL/ANADARKO

LL400
OCS-G-23481
SHELL/ANADARKO

GRID NORTH



DETAIL A

00+00.00' PROPOSED OCS-G-23480 WELL NO. 2 (SUTA)
X= 1,391,475.59' Y= 9,999,989.25' Lat= 27°33'18.913"N Lon= 87°46'06.813"W

STATE OF LOUISIANA
RALPH A. COLEMAN
REG. No. 4691
REGISTERED PROFESSIONAL

THE PROPOSED ROUTE IS ACCURATELY REPRESENTED.

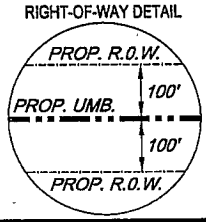
RALPH A. COLEMAN
PROFESSIONAL LAND SURVEYOR
LOUISIANA REGISTRATION No. 4691

PLAN

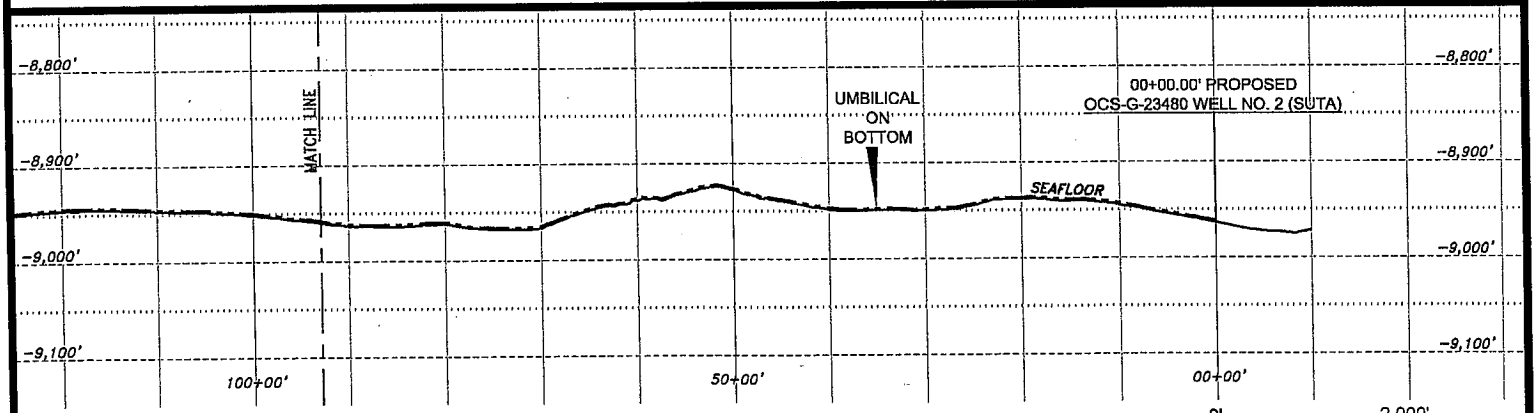
0' 2000'
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

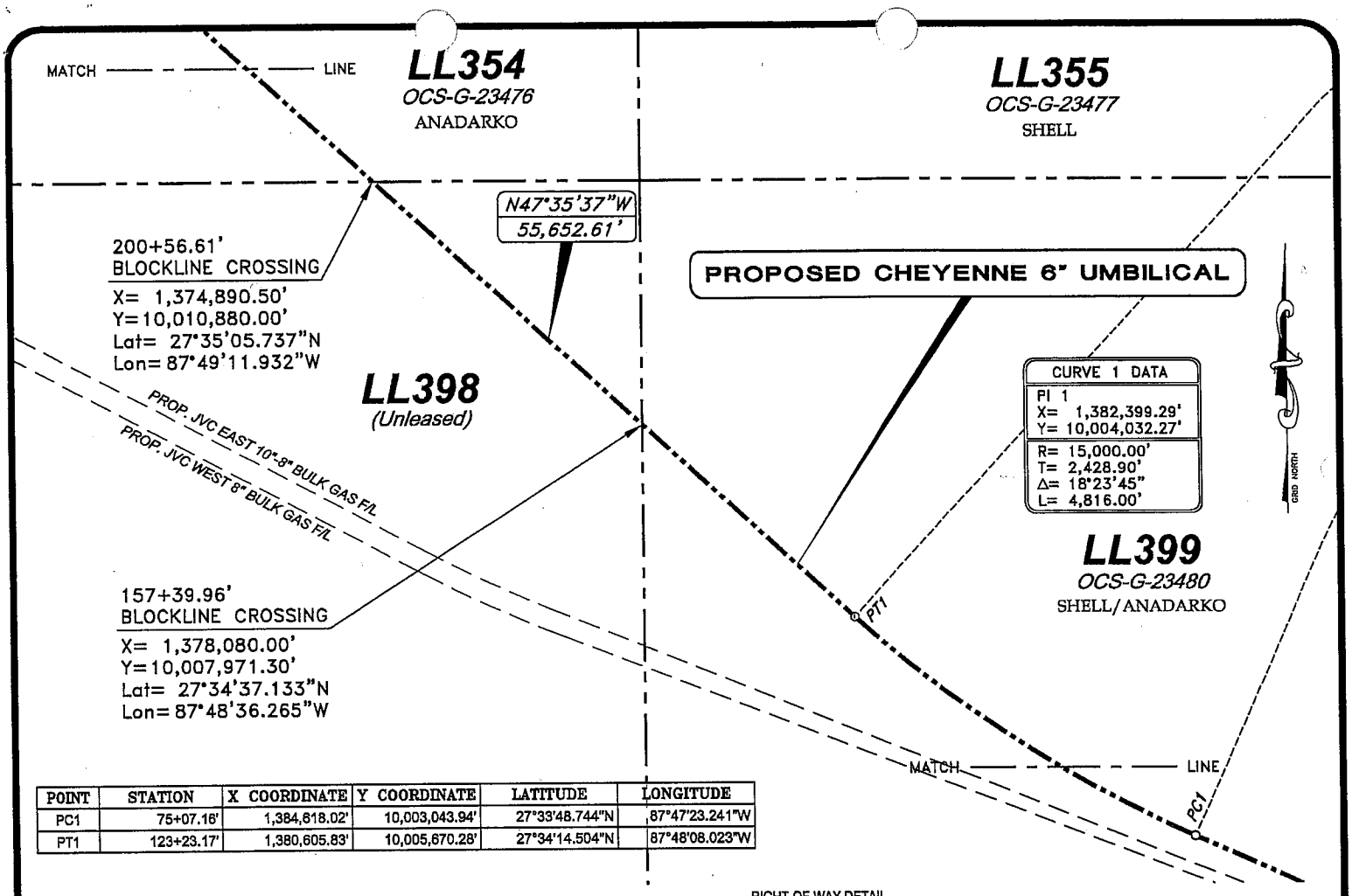
DATE: 05/11/2005 TIME: 13:06 FILENAME: J:\7458-7589\PERMITS\CHEYENNE\7458PRM-CHE-UMB.DWG VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

PROPOSED CHEYENNE 6" UMBILICAL
Block 399 Proposed Well No. 2 (SUTA)
Lloyd Ridge Area
to
Block 305 Well No. 1 (SUTA), Atwater Valley Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-CHE-UMB.DWG
REVISED:
DATE: MAY 11, 2005



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC1	75+07.16'	1,384,618.02'	10,003,043.94'	27°33'48.744"N	87°47'23.241"W
PT1	123+23.17'	1,380,605.83'	10,005,670.28'	27°34'14.504"N	87°48'08.023"W

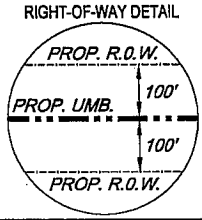
PLAN

0' 2000'

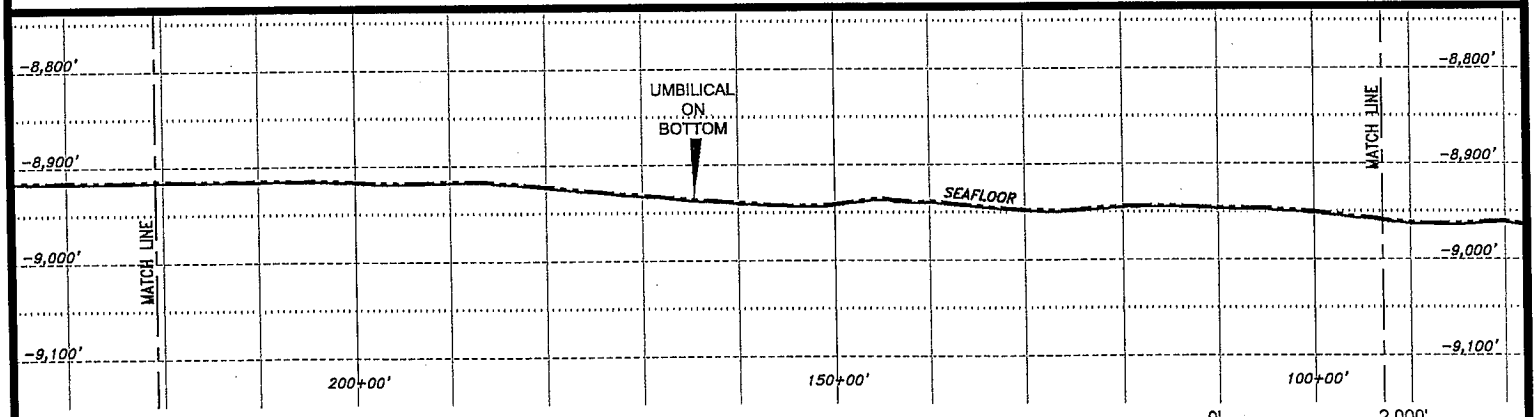
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 fl. at C.M.
FALSE NORTHING: 0.00 fl. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 13:06 FILENAME: J:\7458-7589\PERMITS\CHEYENNE\7458PRM-CHE-UMB.DWG VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

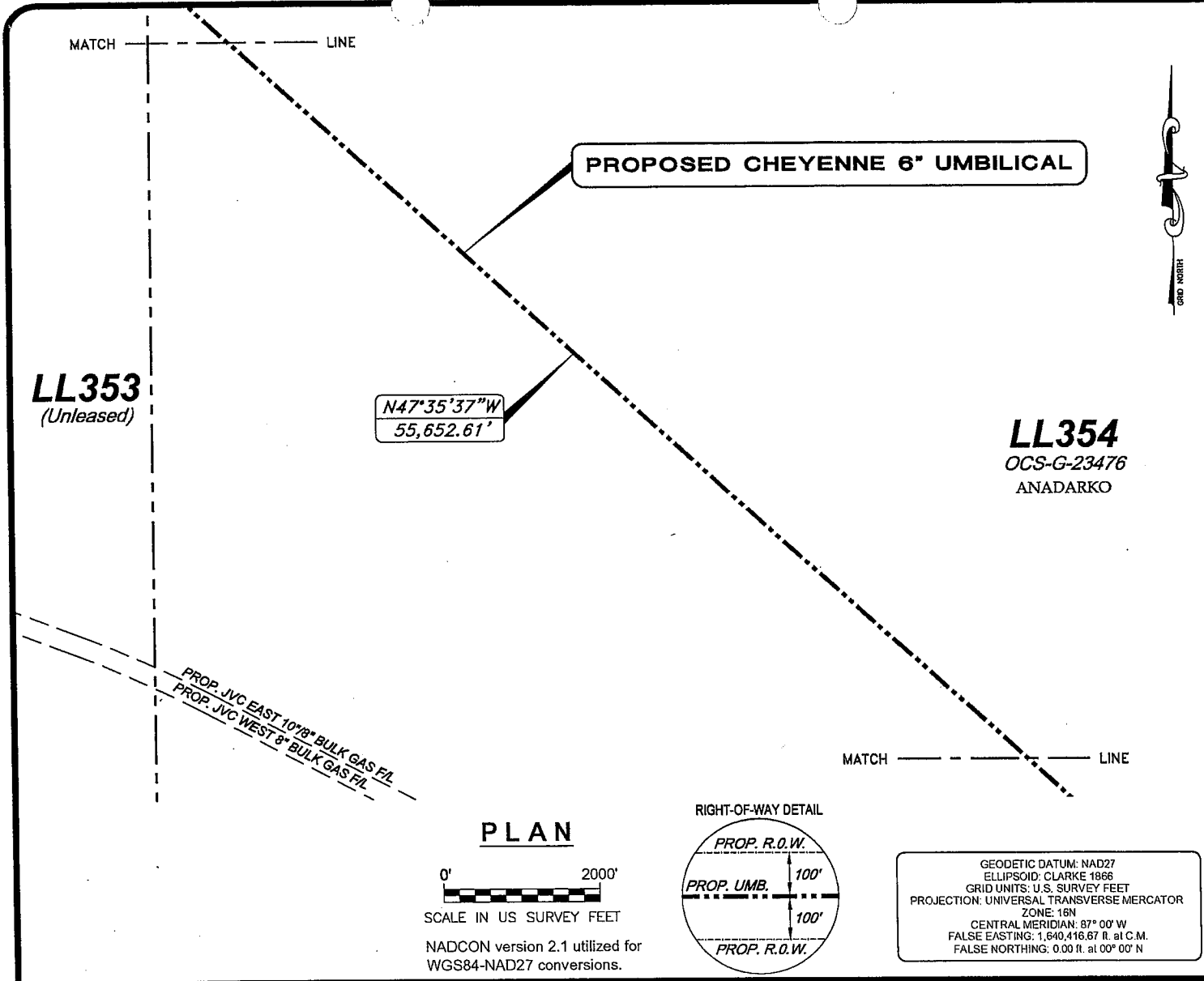
PROPOSED CHEYENNE 6" UMBILICAL

Block 399 Proposed Well No. 2 (SUTA)
Lloyd Ridge Area
to
Block 305 Well No. 1 (SUTA), Atwater Valley Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0650

JOB No: 7458-7589 | REVISED: | DATE: MAY 11, 2005

FILENAME: 7458PRM-CHE-UMB.DWG



PLAN

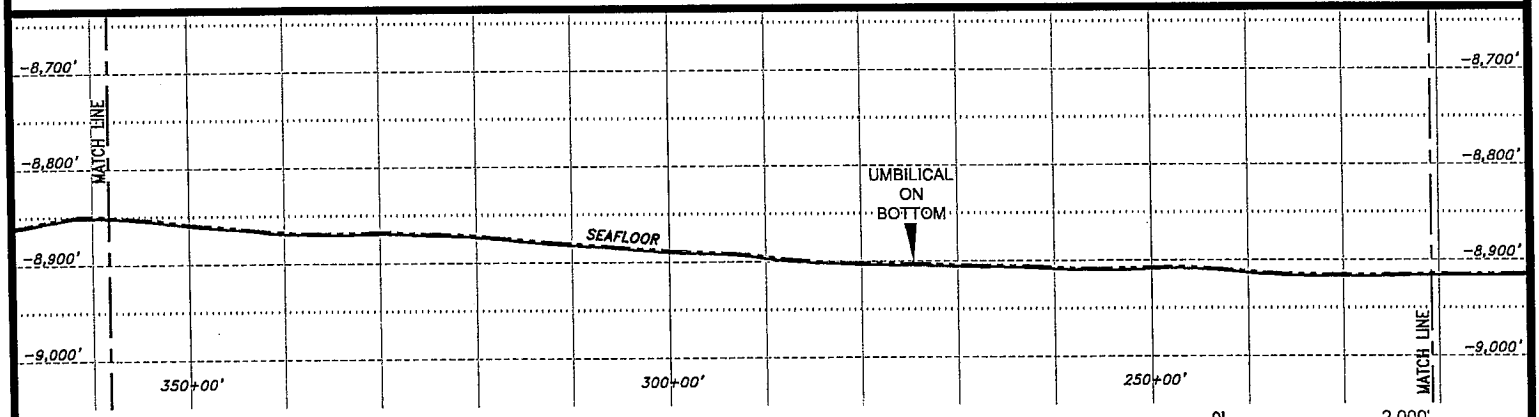
0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'

VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 13:06 FILENAME: J:\7458-7589\PERMITS\CHEYENNE\7458PRM-CHE-UMB.DWG VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

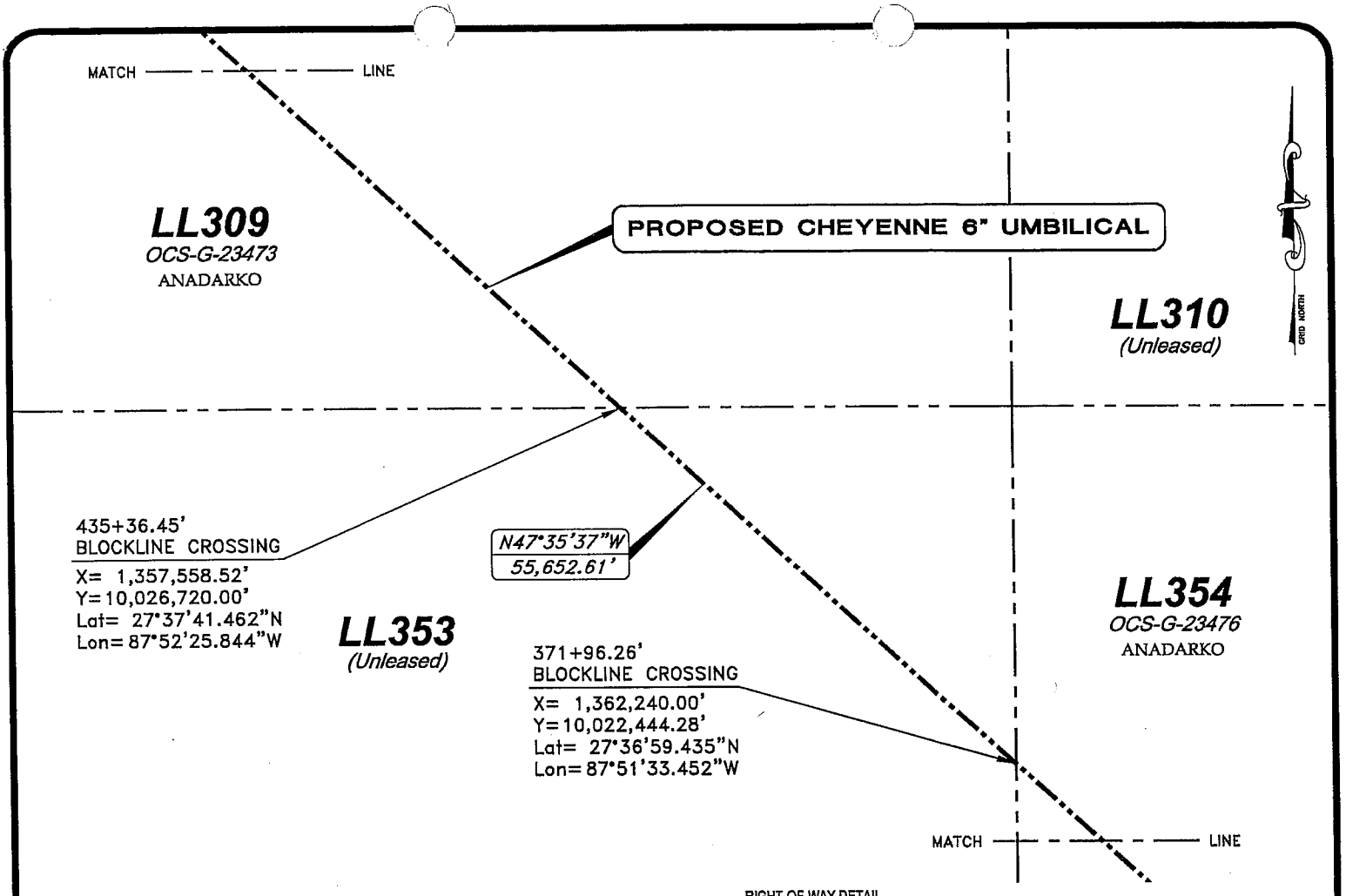
PROPOSED CHEYENNE 6" UMBILICAL

Block 399 Proposed Well No. 2 (SUTA)
Lloyd Ridge Area
to
Block 305 Well No. 1 (SUTA), Atwater Valley Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589 | REVISED: | DATE: MAY 11, 2005

FILENAME: 7458PRM-CHE-UMB.DWG | SHEET 4 of 7



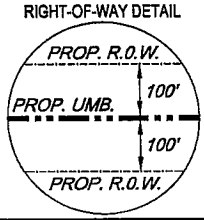
PLAN

0' 2000'

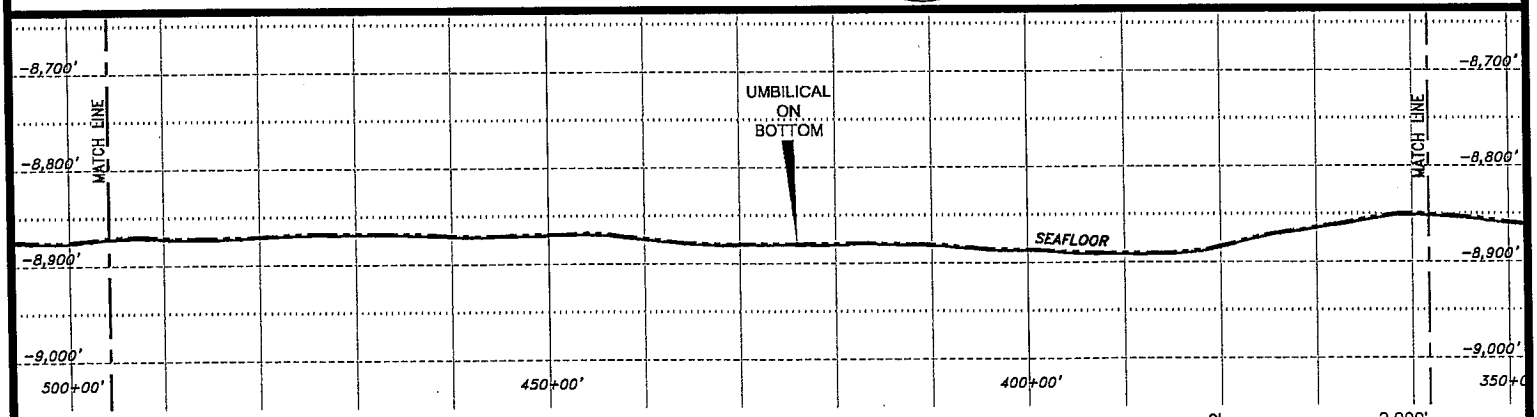
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

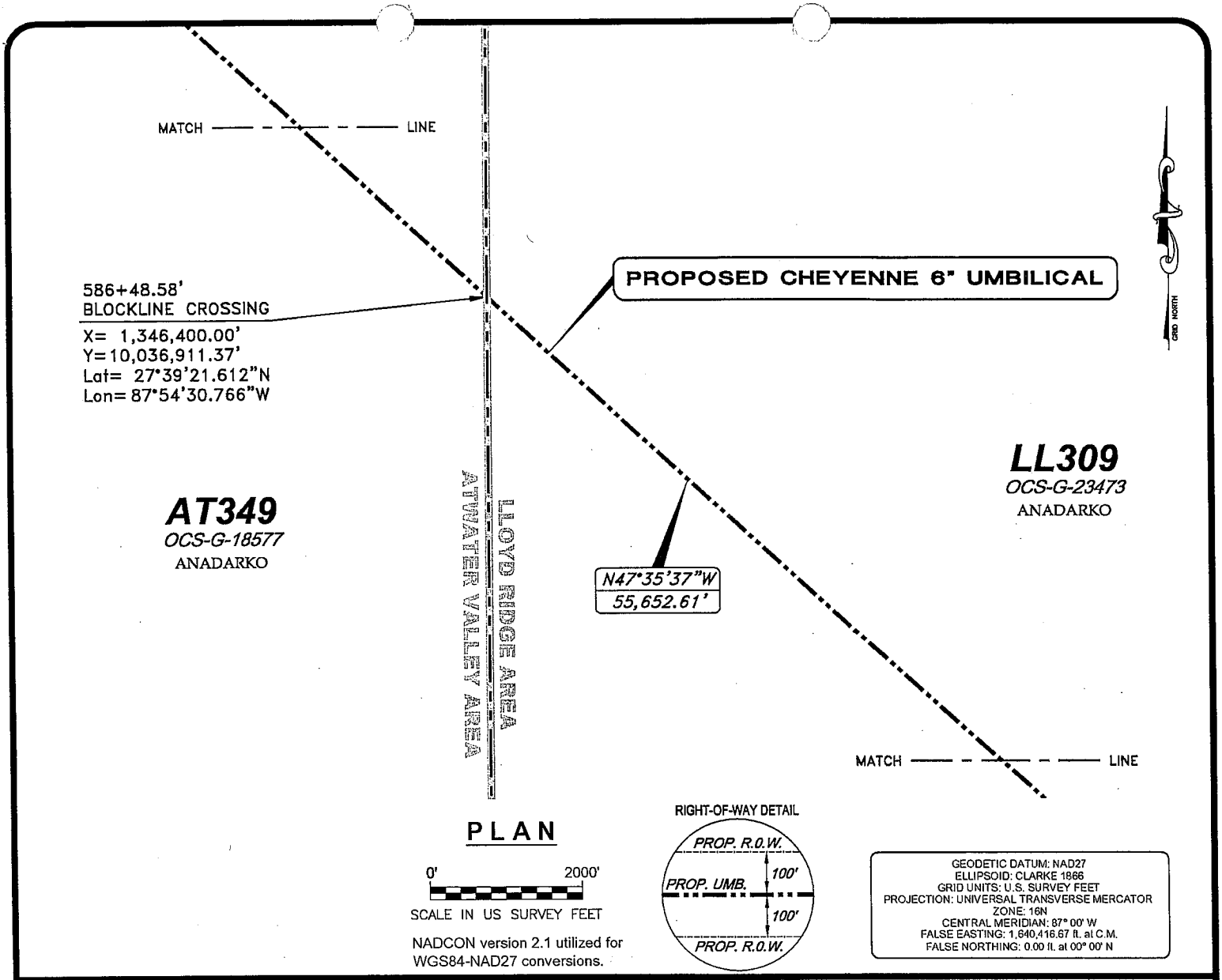
DATE: 05/11/2005 TIME: 13:06 FILENAME: J:\7458-7589\PERMITS\CHEYENNE\7458PRM-CHE-UMB.DWG VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

PROPOSED CHEYENNE 6" UMBILICAL

Block 399 Proposed Well No. 2 (SUTA)
Lloyd Ridge Area
to
Block 305 Well No. 1 (SUTA), Atwater Valley Area

PREPARED BY:	JOB No: 7458-7589	REVISED:	DATE: MAY 11, 2005
C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	FILENAME: 7458PRM-CHE-UMB.DWG		SHEET 5 of 7



PLAN

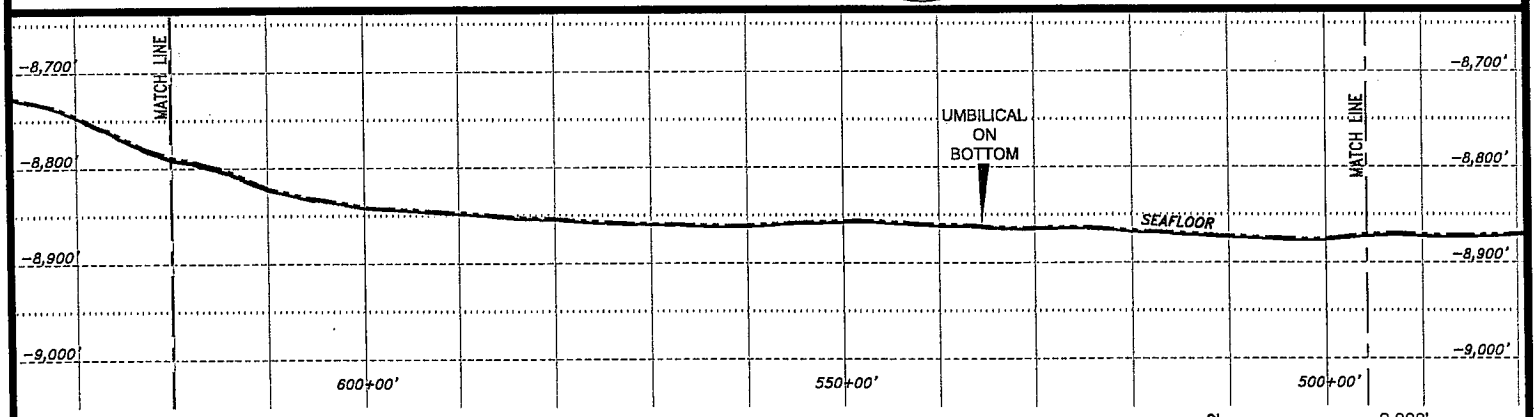
0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'

VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 13:06 FILENAME: J:\7458-7589\PERMITS\CHEYENNE\7458PRM-CHE-UMB.DWG

VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

PROPOSED CHEYENNE 6" UMBILICAL

Block 399 Proposed Well No. 2 (SUTA)
Lloyd Ridge Area
to
Block 305 Well No. 1 (SUTA), Atwater Valley Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0650

JOB No: 7458-7589 | REVISED: | DATE: MAY 11, 2005

FILENAME: 7458PRM-CHE-UMB.DWG

POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC2	75+07.16'	1,384,618.02'	10,003,043.94'	27°33'48.744"N	87°47'23.241"W
PT2	681+43.02'	1,339,380.65'	10,043,303.44'	27°40'24.408"N	87°55'49.380"W

683+59.21' OCS-G-18556
WELL NO. 1 (SUTA)
X= 1,339,198.98'
Y= 10,043,420.62'
Lat= 27°40'25.555"N
Lon= 87°55'51.411"W

PROP. JUBILEE 6" UMBILICAL

N57°10'35"W
216.18'

670+24.58'
BLOCKLINE CROSSING
X= 1,340,215.32'
Y=10,042,560.00'
Lat= 27°40'17.107"N
Lon= 87°55'40.032"W

PT2
PC2

CURVE 2 DATA
PI 2
X= 1,339,451.08'
Y= 10,043,258.00'
R= 1,000.00'
T= 83.82'
Δ= 09°34'57"
L= 167.25'

AT305
OCS-G-18556
ANADARKO

ATWATER VALLEY AREA

LLOYD RIDGE AREA

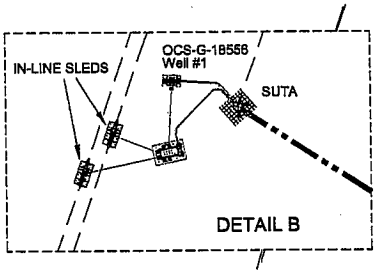
LL265
OCS-G-23472
ANADARKO

GRID NORTH

TOTAL LENGTH = 68,359.21' = 12.95 statute miles

PROPOSED CHEYENNE 6" UMBILICAL

PROP. JVC WEST 8" BULK GAS F/L
PROP. JVC EAST 10"-8" BULK GAS F/L



AT349
OCS-G-18577
ANADARKO

N47°35'37"W
55,652.61'
MATCH LINE

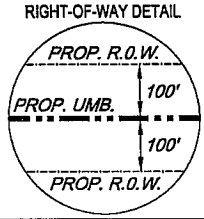
LL309
OCS-G-23473
ANADARKO

PLAN

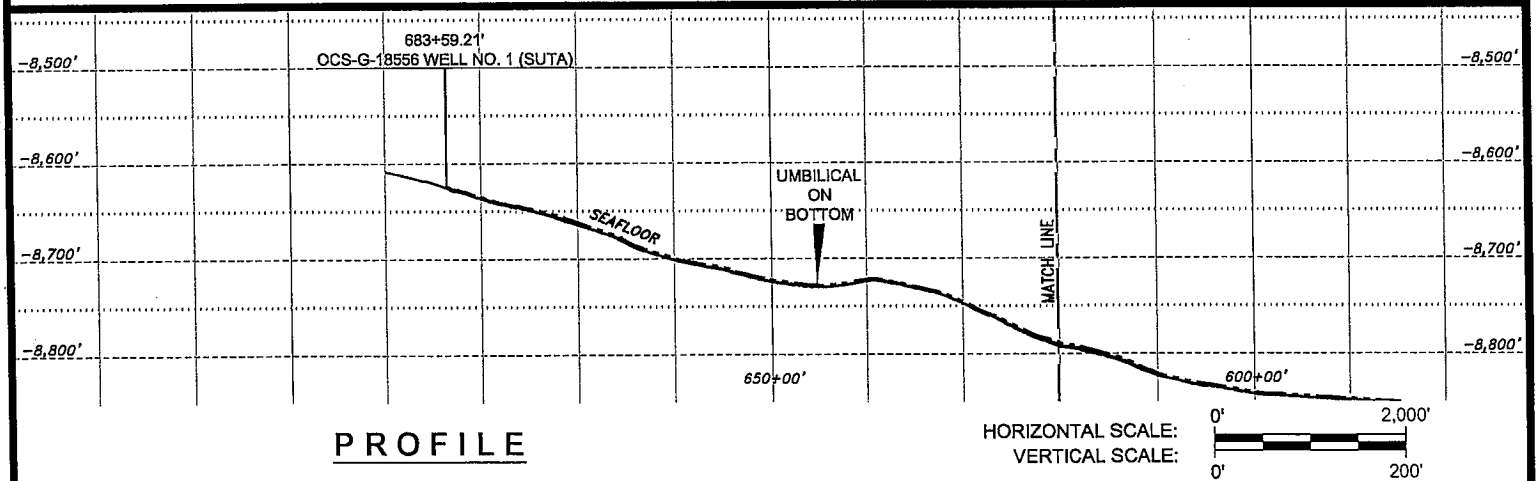
0' 2000'
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for
WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

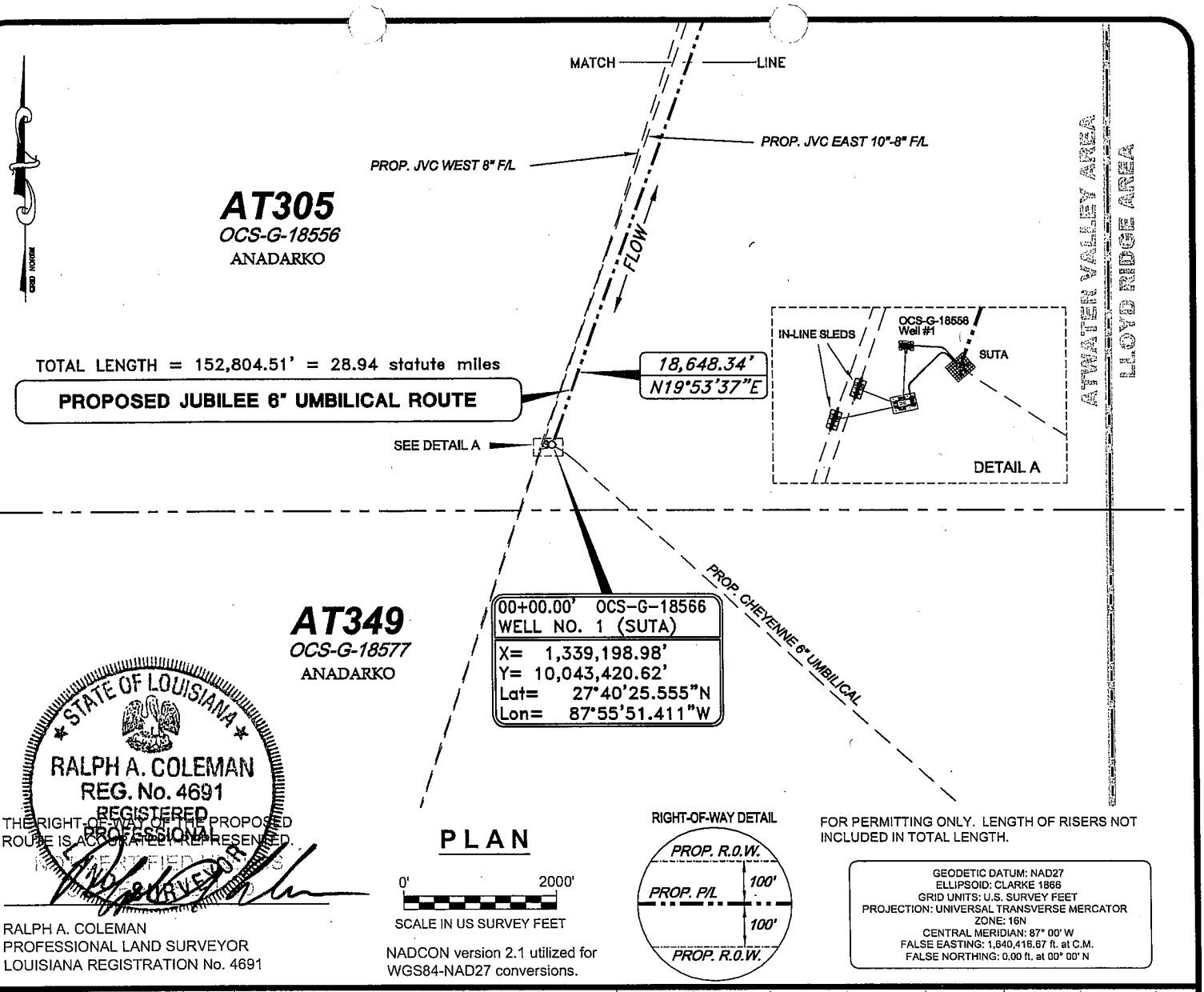
DATE: 05/11/2005 TIME: 13:06 FILENAME: J:\7458-7589\PERMITS\CHEYENNE\7458PRM-CHE-UMB.DWG VERTICAL EXAGGERATION = 10

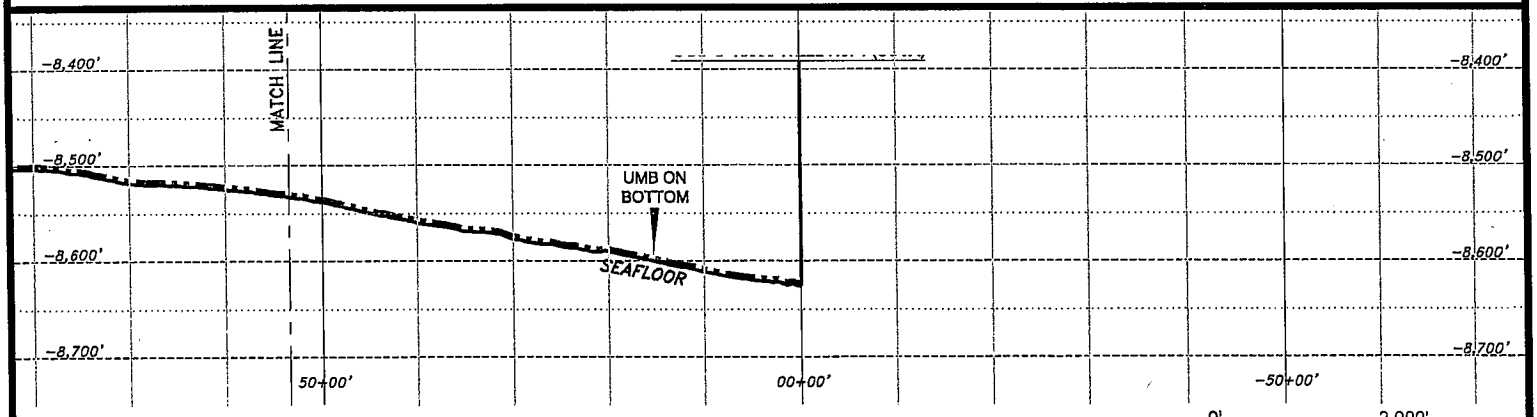
Anadarko Petroleum Corporation

PROPOSED CHEYENNE 6" UMBILICAL
Block 399 Proposed Well No. 2 (SUTA)
Lloyd Ridge Area
to
Block 305 Well No. 1 (SUTA), Atwater Valley Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-CHE-UMB.DWG
REVISED:
DATE: MAY 11, 2005
SHEET 7 of 7





PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

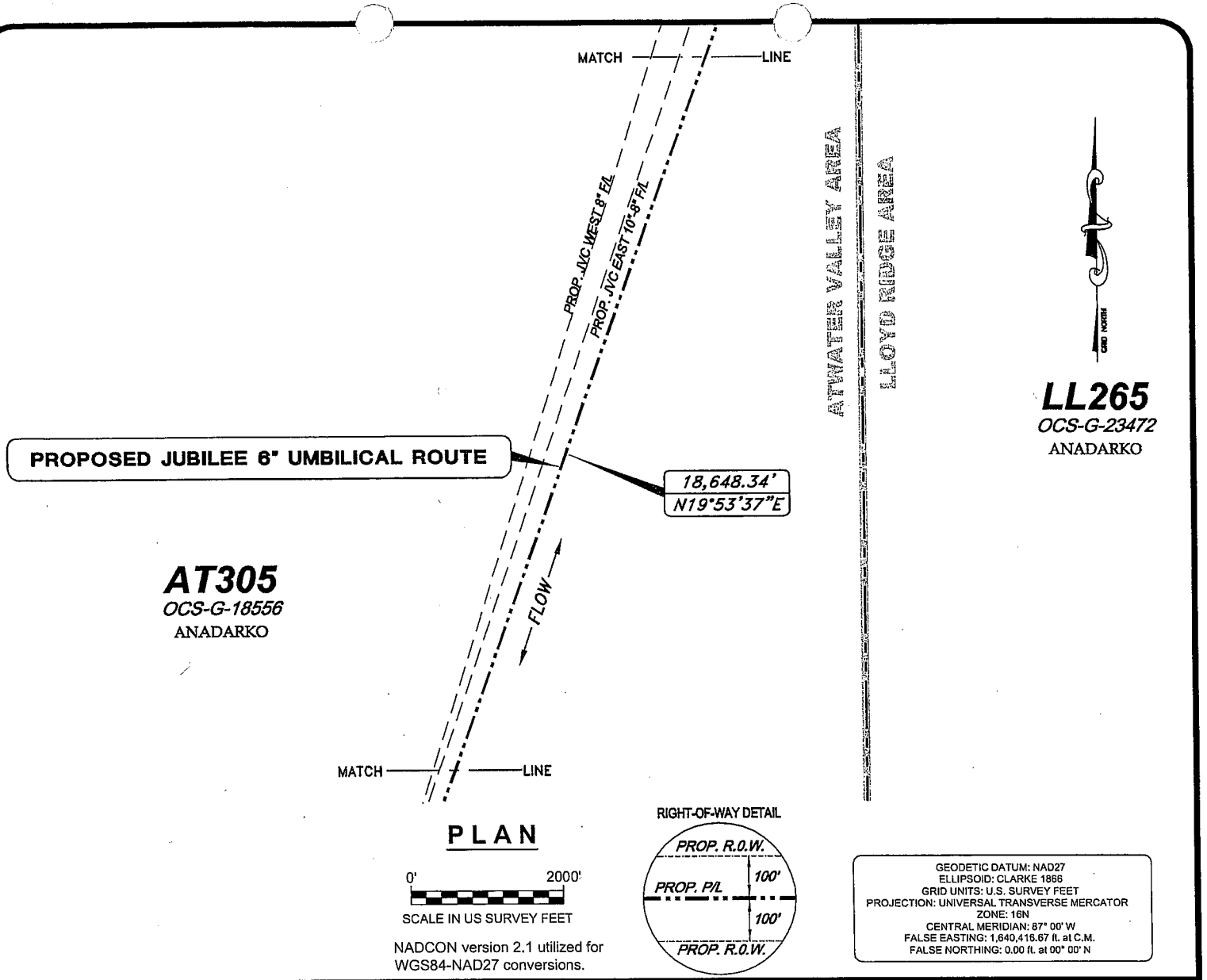
VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY:	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 2 of 18



PLAN

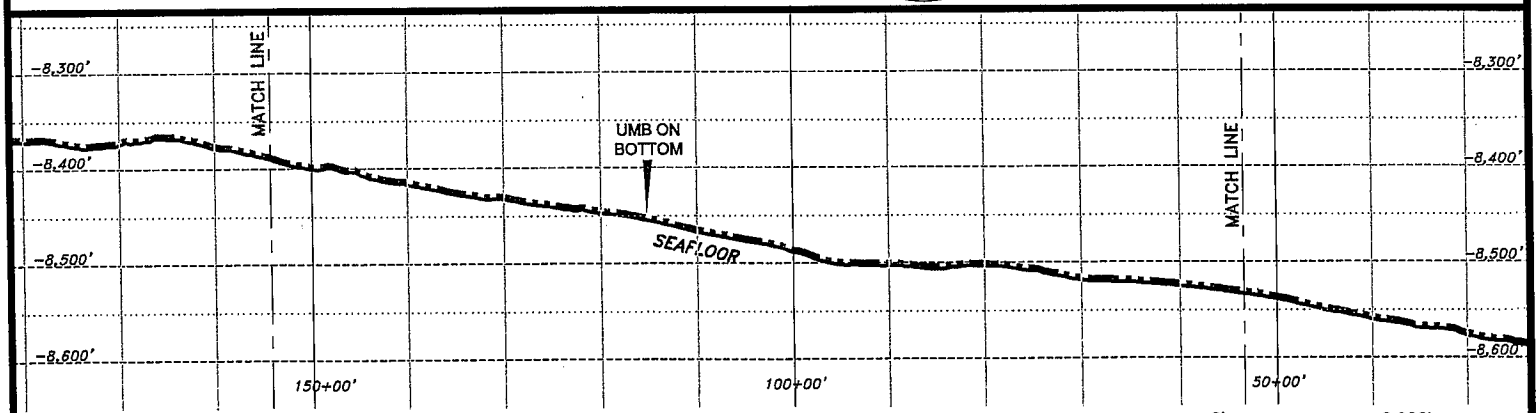
0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

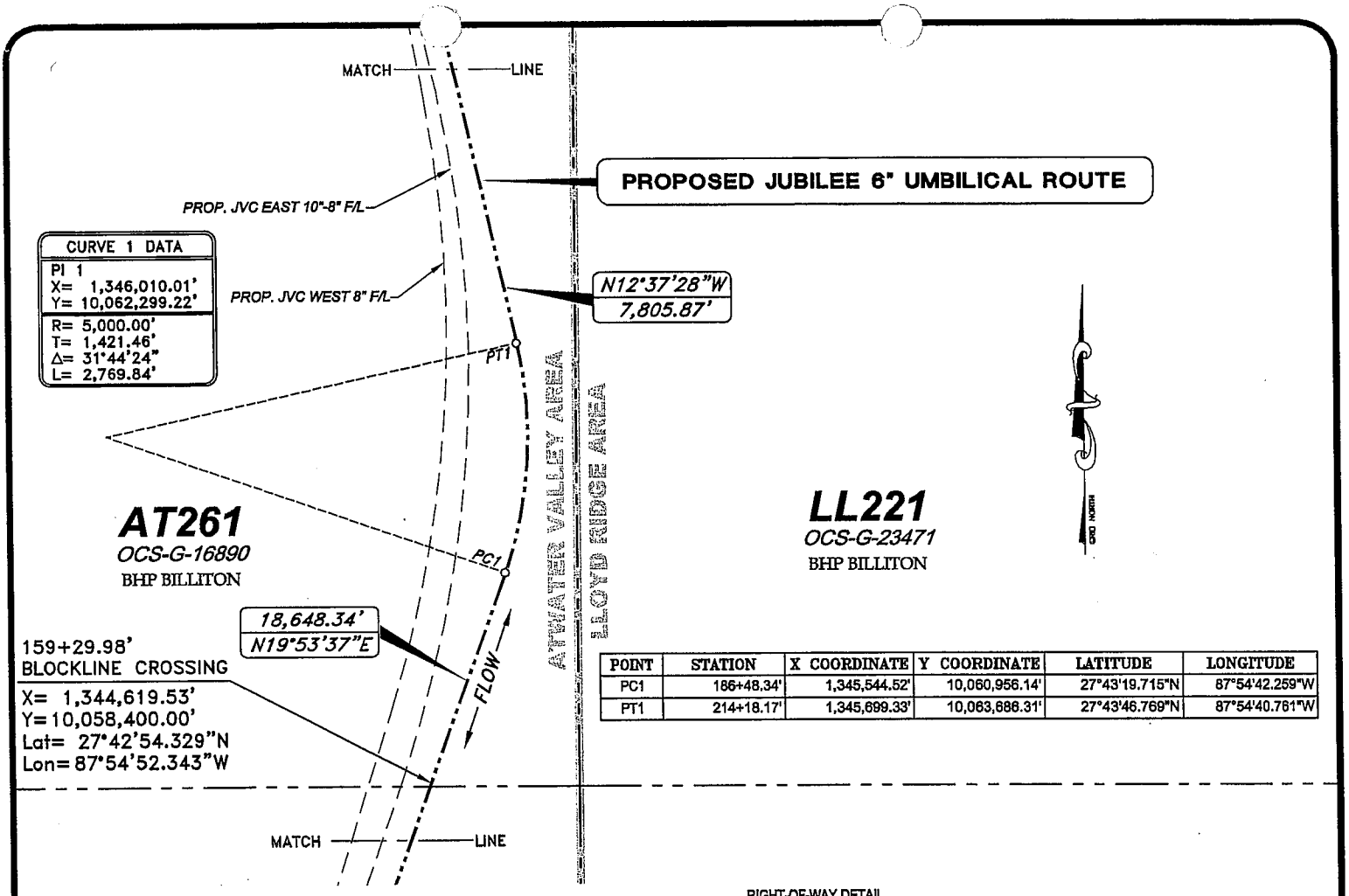
DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY:	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 3 of 18



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PC1	186+48.34'	1,345,544.52'	10,060,956.14'	27°43'19.715"N	87°54'42.259"W
PT1	214+18.17'	1,345,699.33'	10,063,686.31'	27°43'46.769"N	87°54'40.761"W

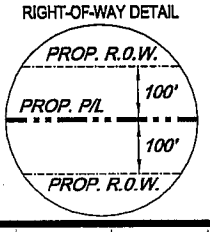
PLAN

0' 2000'

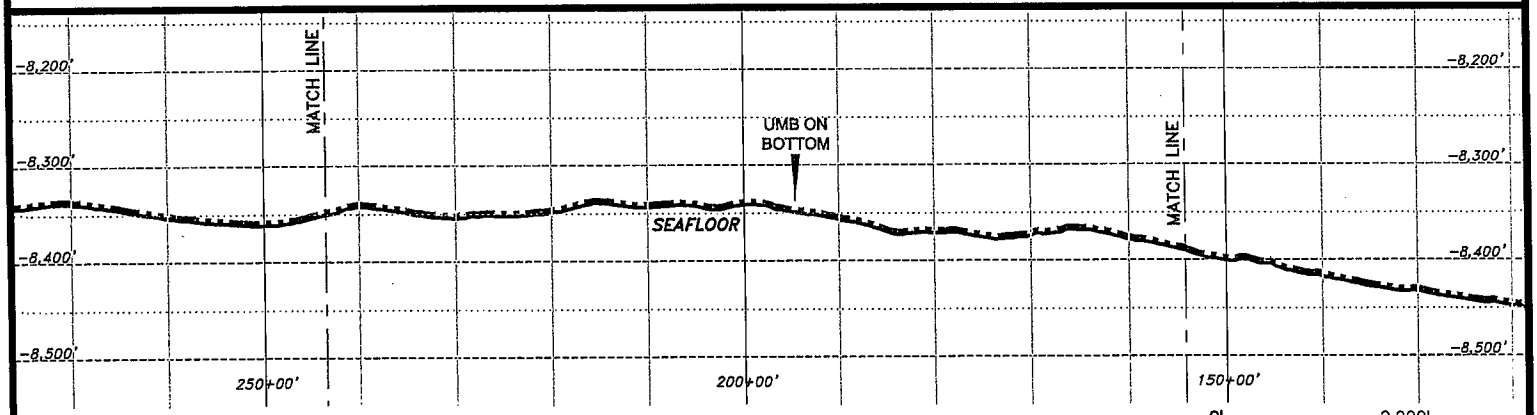
SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL



GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

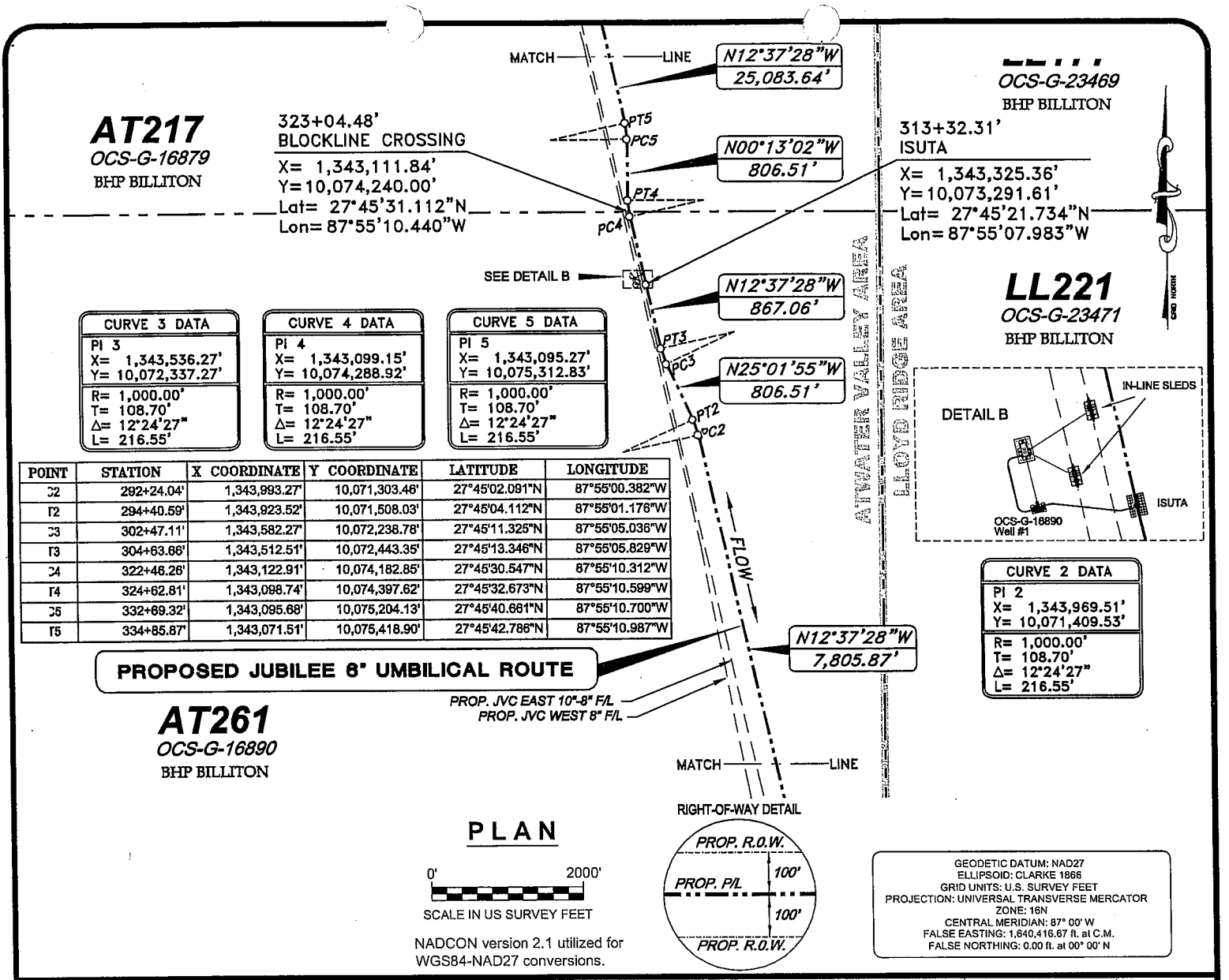
Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589 | REVISED: | DATE: May 11, 2005

FILENAME: 7458PRM-JUB-UMB.DWG

SHEET 4 of 18



CURVE 3 DATA	CURVE 4 DATA	CURVE 5 DATA
PI 3 X= 1,343,536.27' Y= 10,072,337.27'	PI 4 X= 1,343,099.15' Y= 10,074,288.92'	PI 5 X= 1,343,095.27' Y= 10,075,312.83'
R= 1,000.00' T= 108.70' Δ= 12°24'27" L= 216.55'	R= 1,000.00' T= 108.70' Δ= 12°24'27" L= 216.55'	R= 1,000.00' T= 108.70' Δ= 12°24'27" L= 216.55'

CURVE 2 DATA
PI 2 X= 1,343,969.51' Y= 10,071,409.53'
R= 1,000.00' T= 108.70' Δ= 12°24'27" L= 216.55'

POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
C2	292+24.04'	1,343,993.27'	10,071,303.46'	27°45'02.091"N	87°55'00.382"W
T2	294+40.59'	1,343,923.52'	10,071,508.03'	27°45'04.112"N	87°55'01.176"W
C3	302+47.11'	1,343,582.27'	10,072,238.78'	27°45'11.325"N	87°55'05.036"W
T3	304+63.66'	1,343,512.51'	10,072,443.35'	27°45'13.346"N	87°55'05.829"W
C4	322+46.26'	1,343,122.91'	10,074,182.85'	27°45'30.547"N	87°55'10.312"W
T4	324+62.81'	1,343,098.74'	10,074,397.62'	27°45'32.673"N	87°55'10.599"W
C5	332+69.32'	1,343,095.68'	10,075,204.13'	27°45'40.661"N	87°55'10.700"W
T5	334+85.87'	1,343,071.51'	10,075,418.90'	27°45'42.786"N	87°55'10.987"W

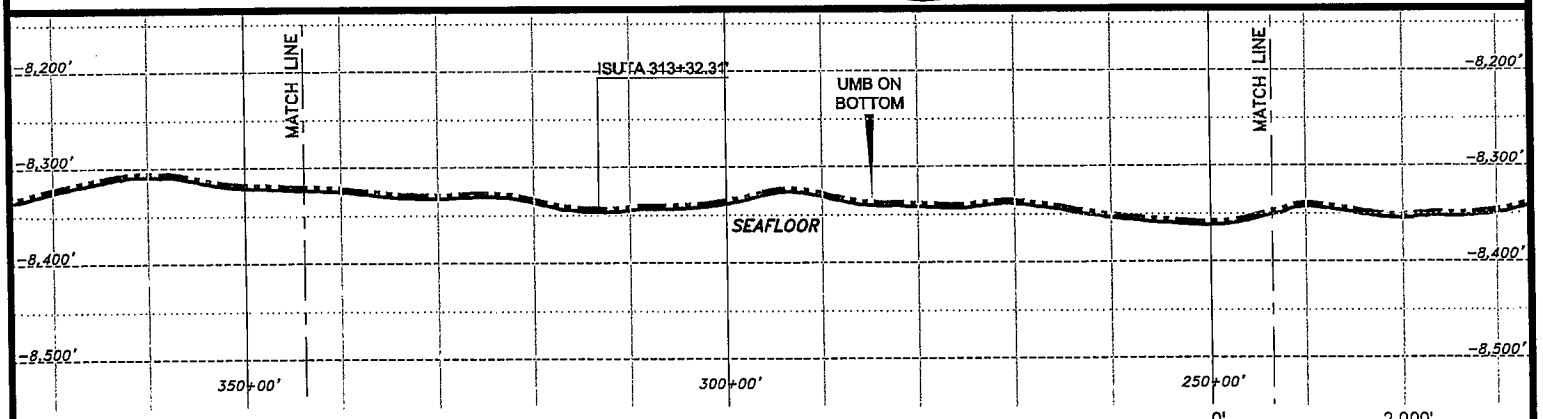
PLAN

0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

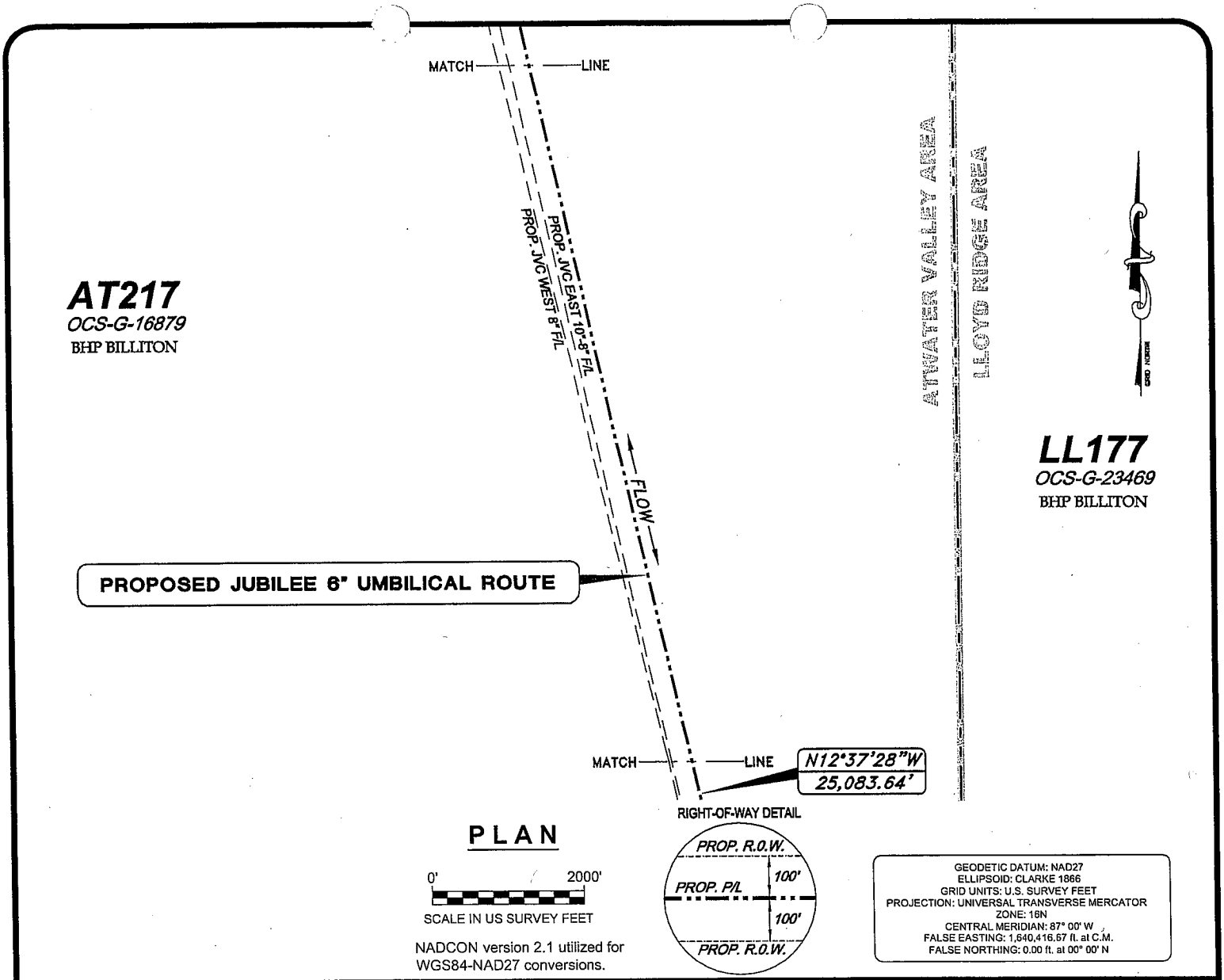
VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY:	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0860	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 5 of 18



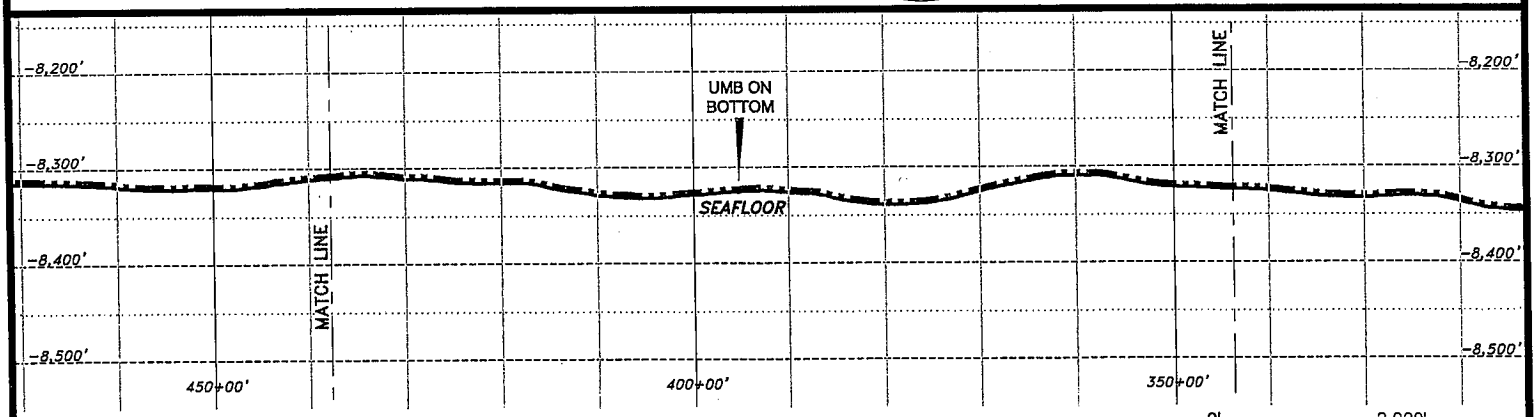
PLAN

0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

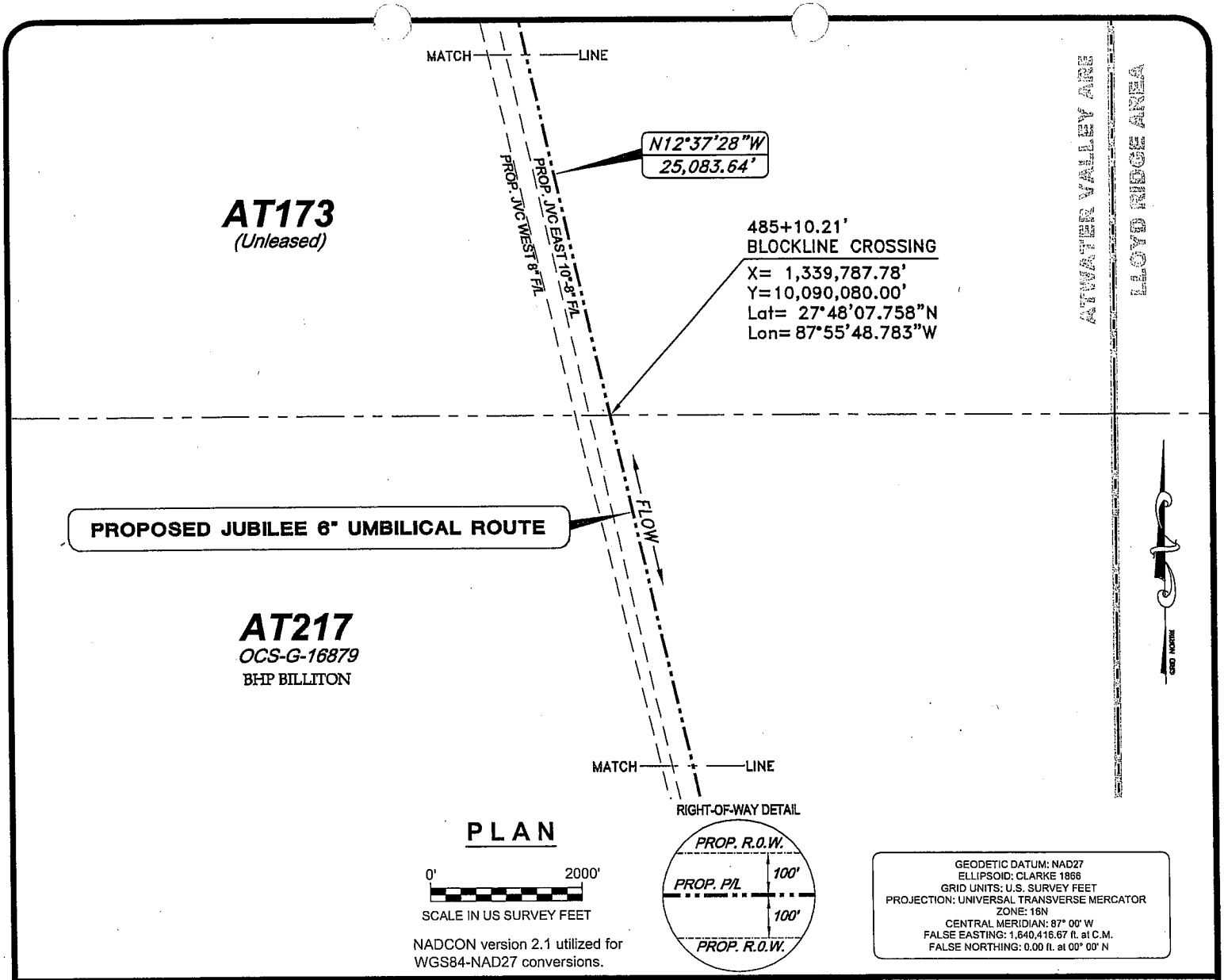
VERTICAL EXAGGERATION = 10

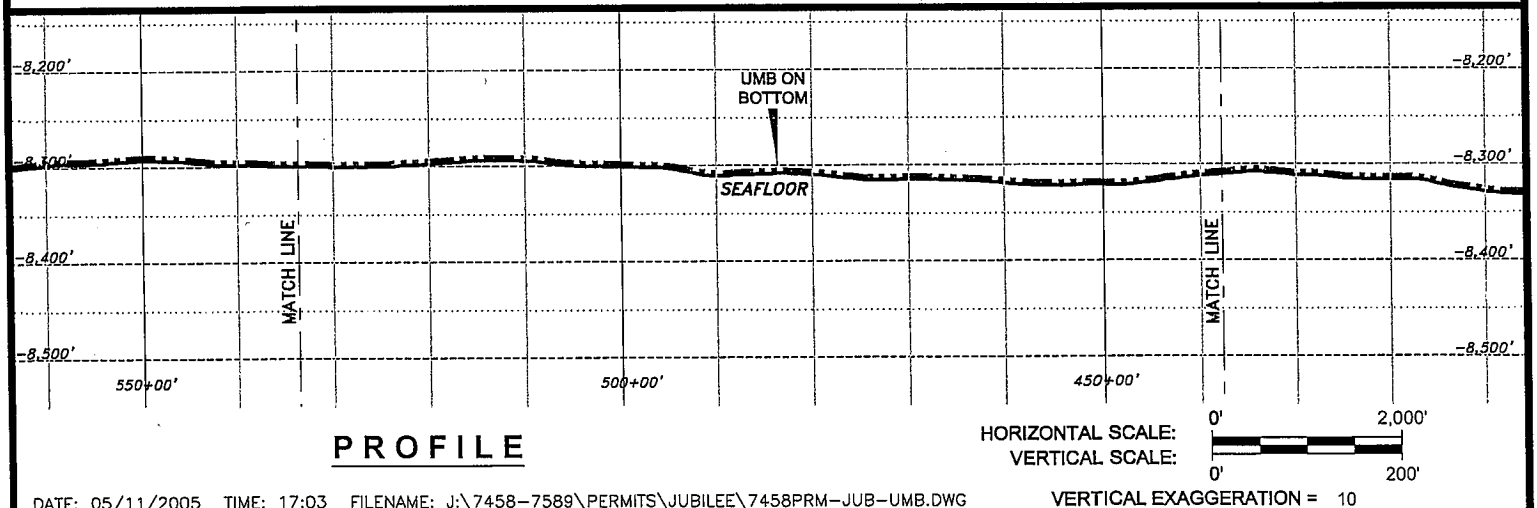
Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 6 of 18





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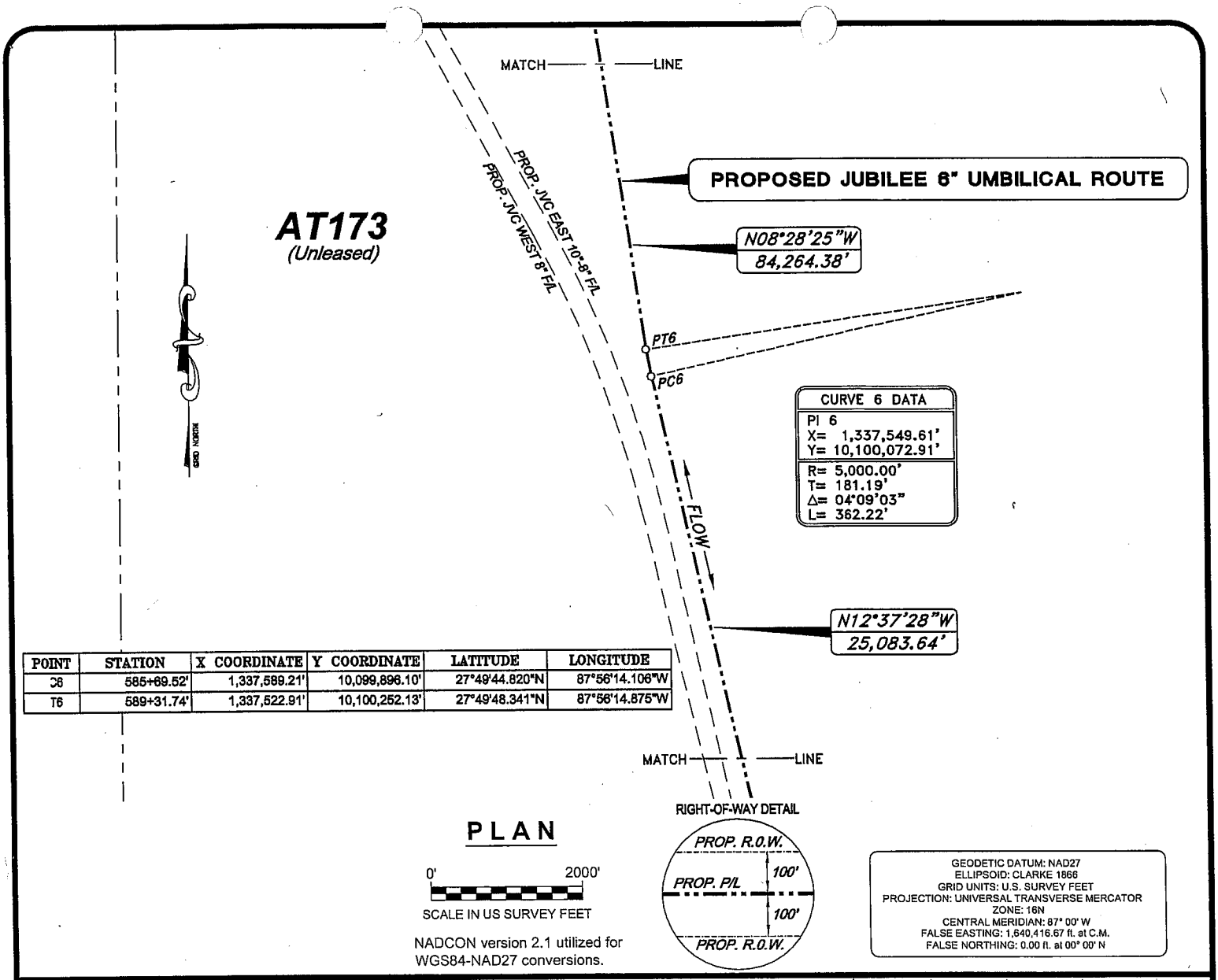
Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 7 of 18



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
36	585+69.52'	1,337,589.21'	10,099,896.10'	27°49'44.820"N	87°56'14.106"W
T6	589+31.74'	1,337,522.91'	10,100,252.13'	27°49'48.341"N	87°56'14.875"W

PLAN

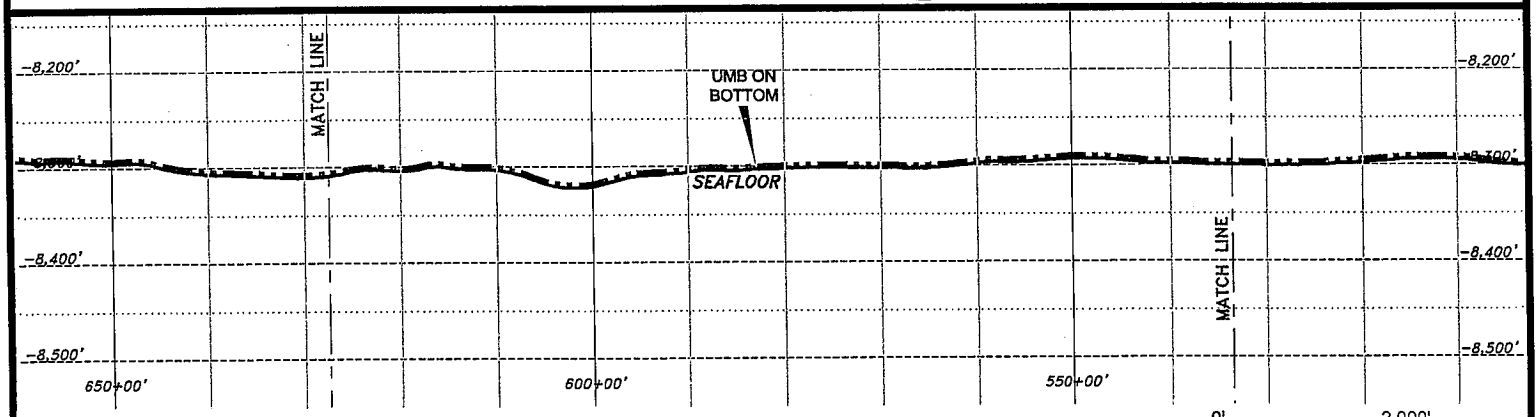
0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

RIGHT-OF-WAY DETAIL

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

VERTICAL EXAGGERATION = 10

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
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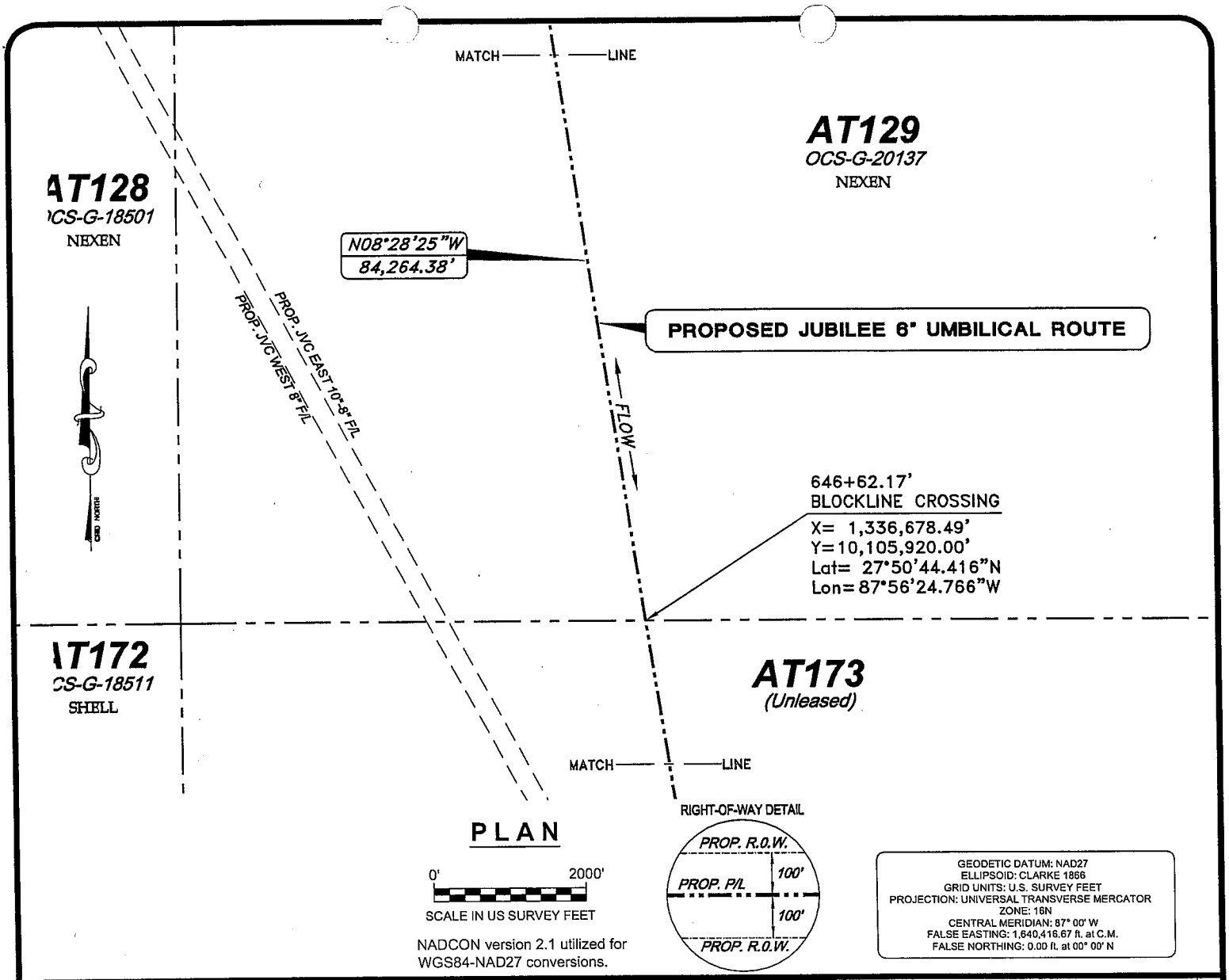
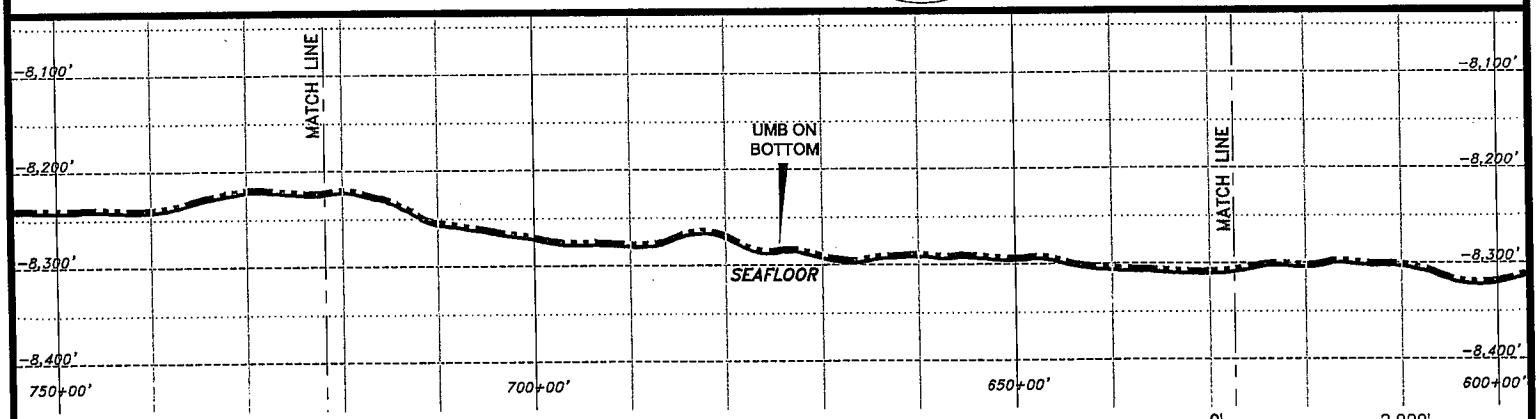
PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JUB-UMB.DWG
REVISED:
DATE: May 11, 2005
SHEET 8 of 18





PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

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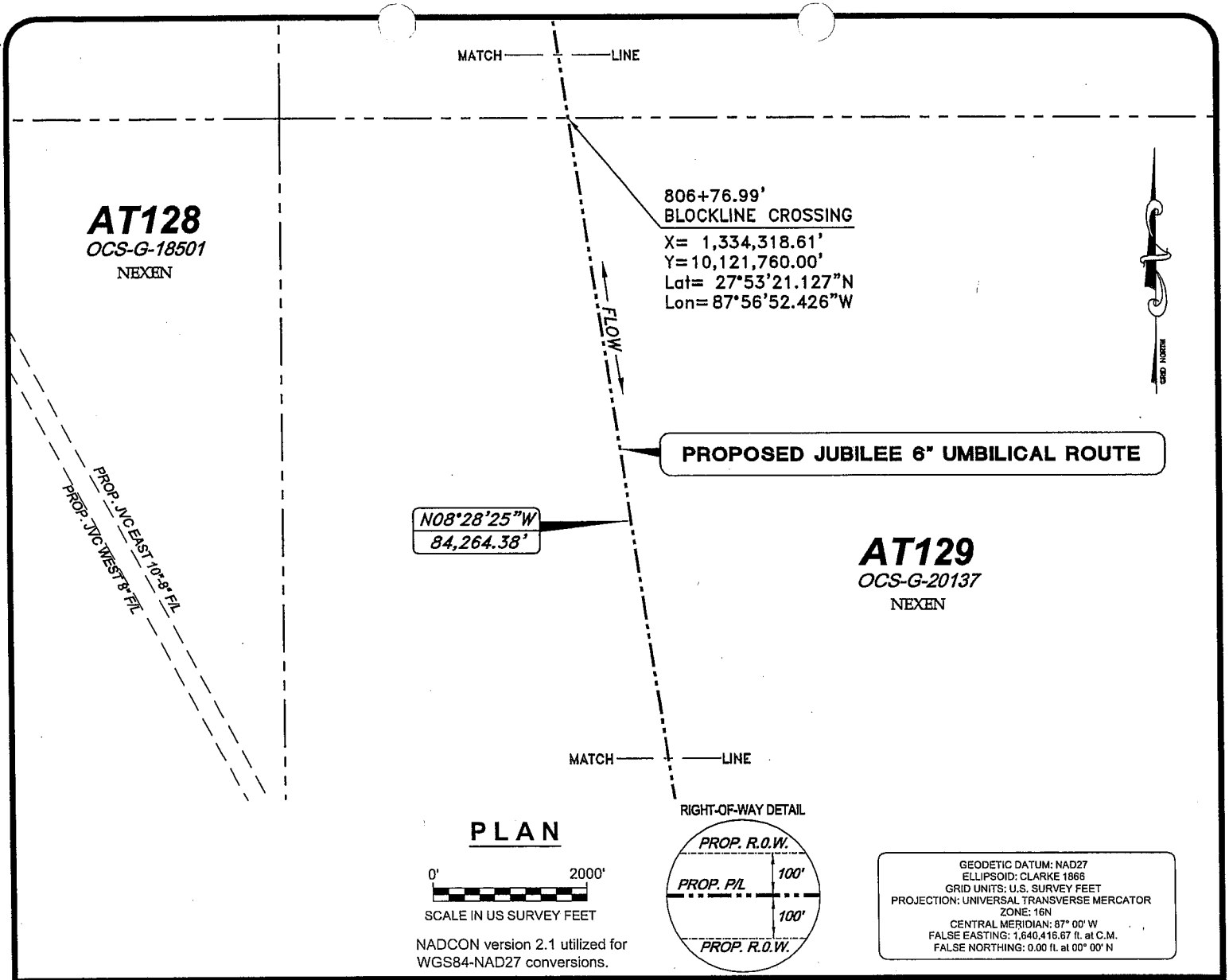
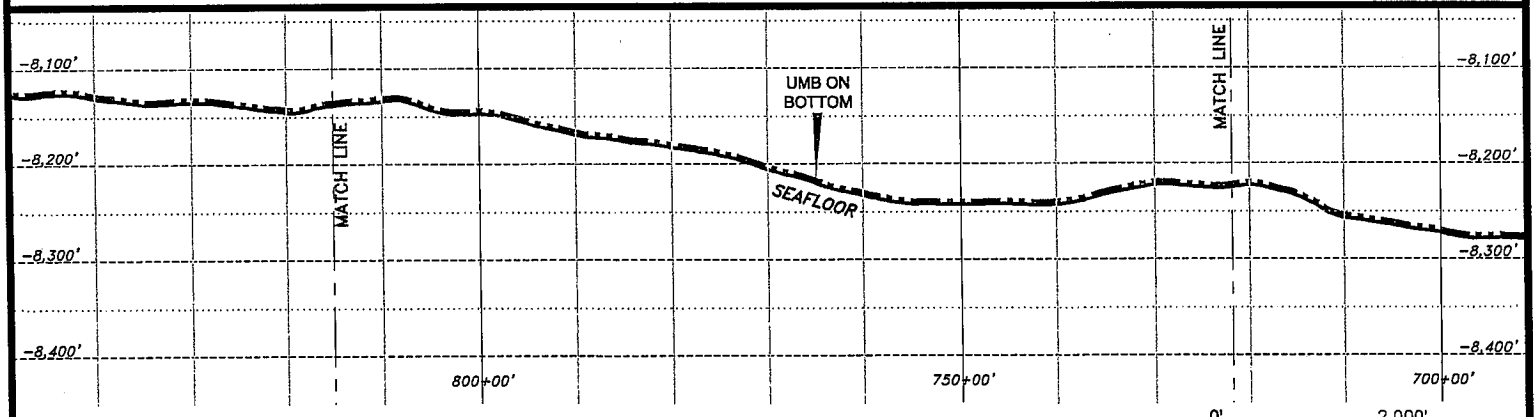
Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 9 of 18





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Anadarko Petroleum Corporation

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Block 305, Well # 1 (SUTA), Atwater Valley Area
to
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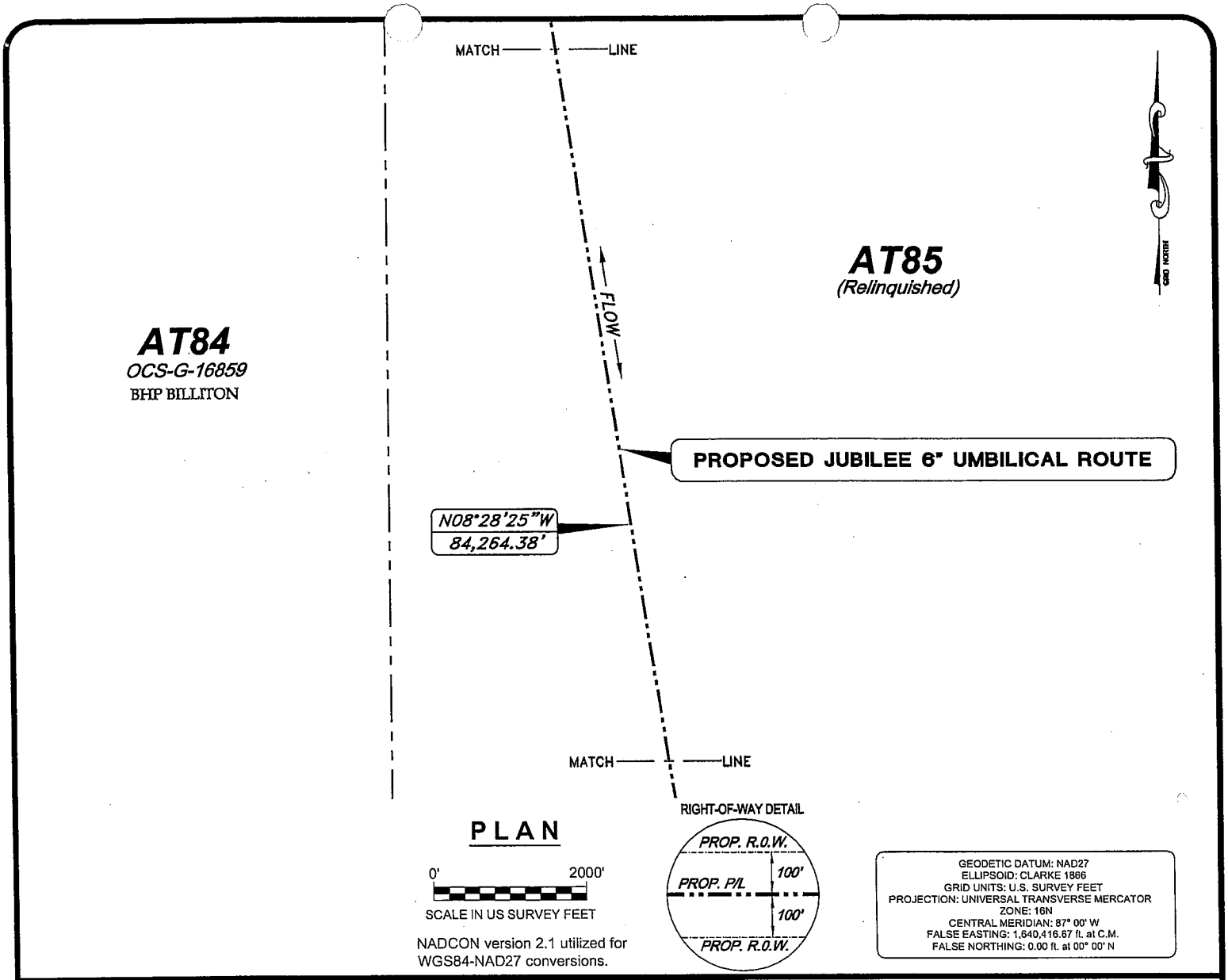
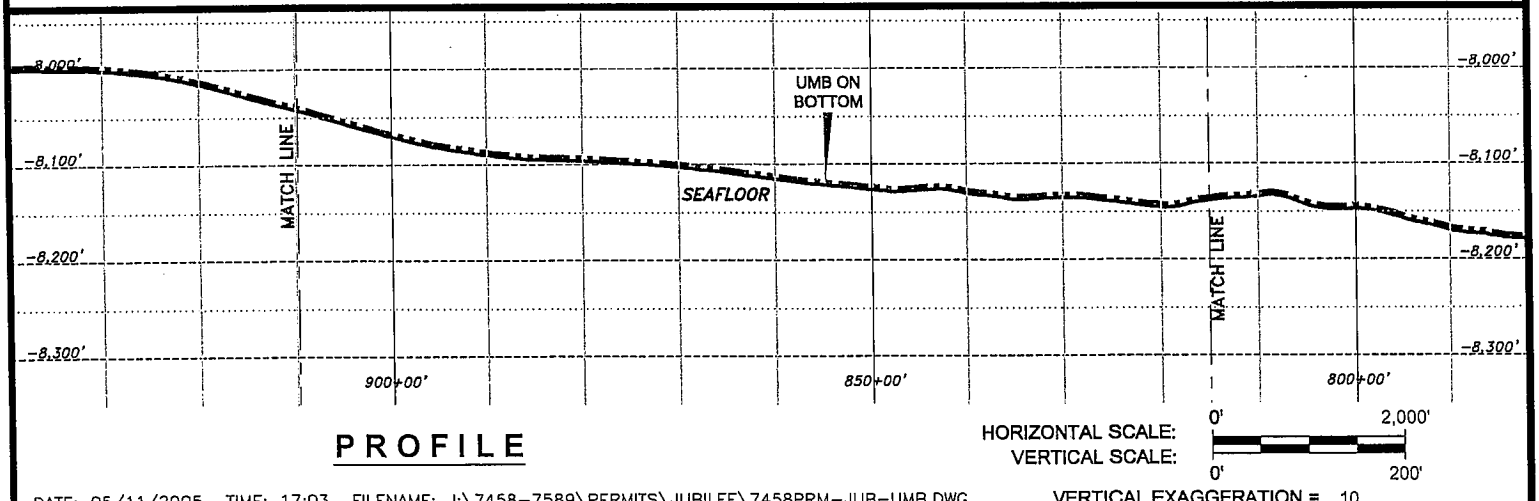
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 10 of 18





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Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
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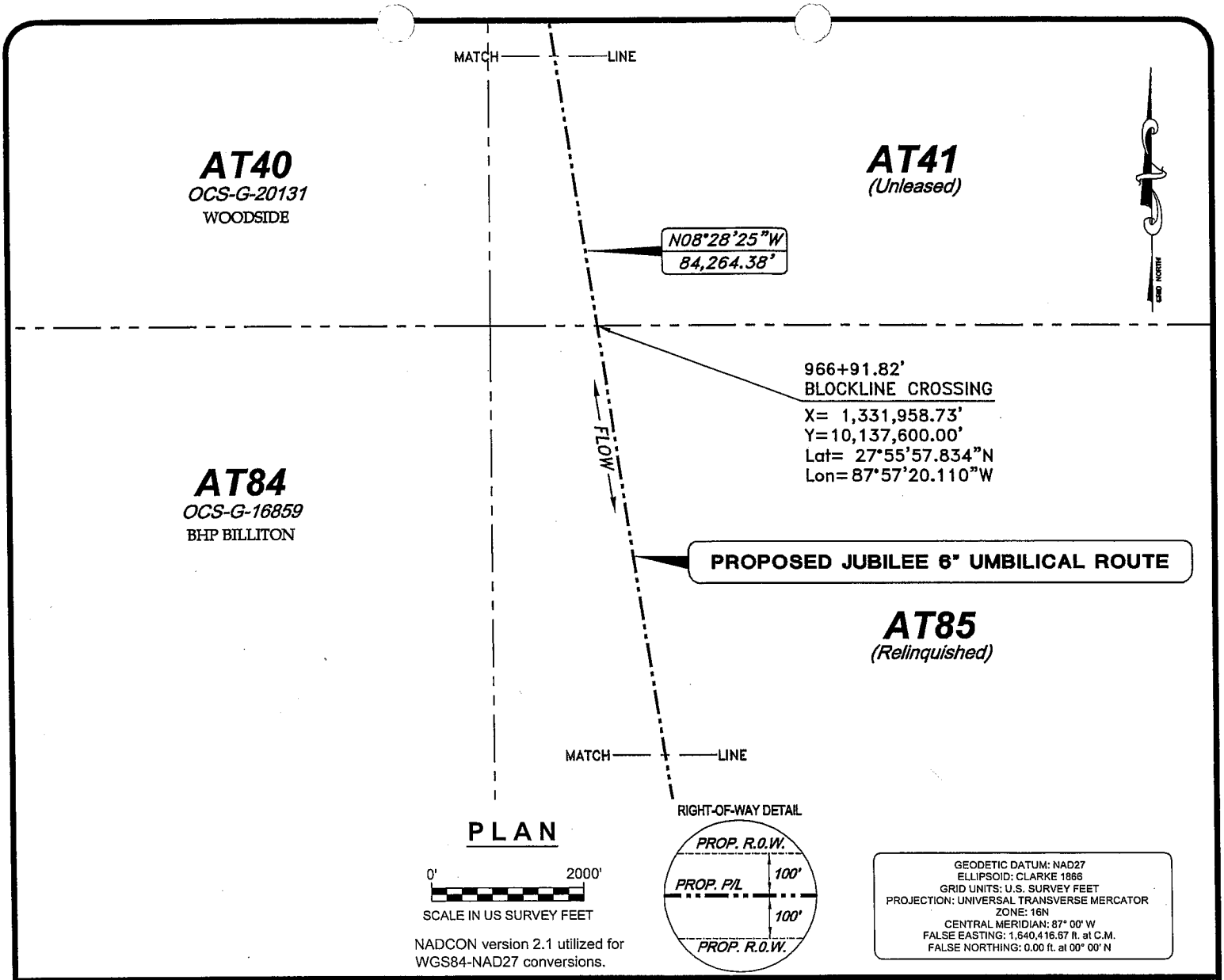
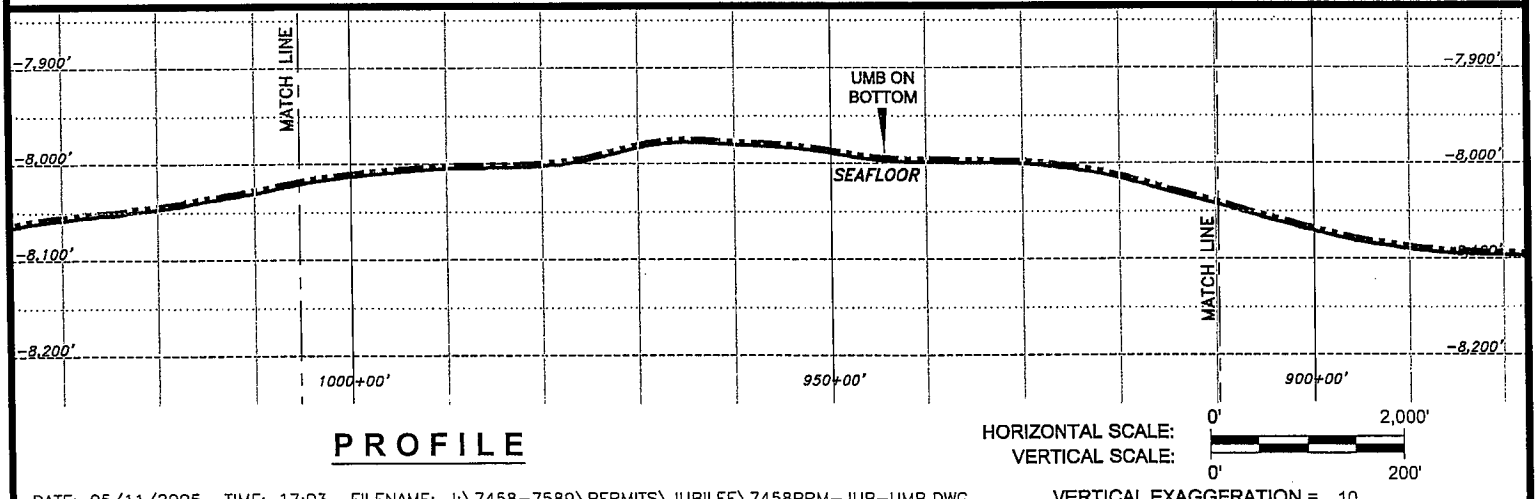
PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JUB-UMB.DWG
REVISED:
DATE: May 11, 2005
SHEET 11 of 18





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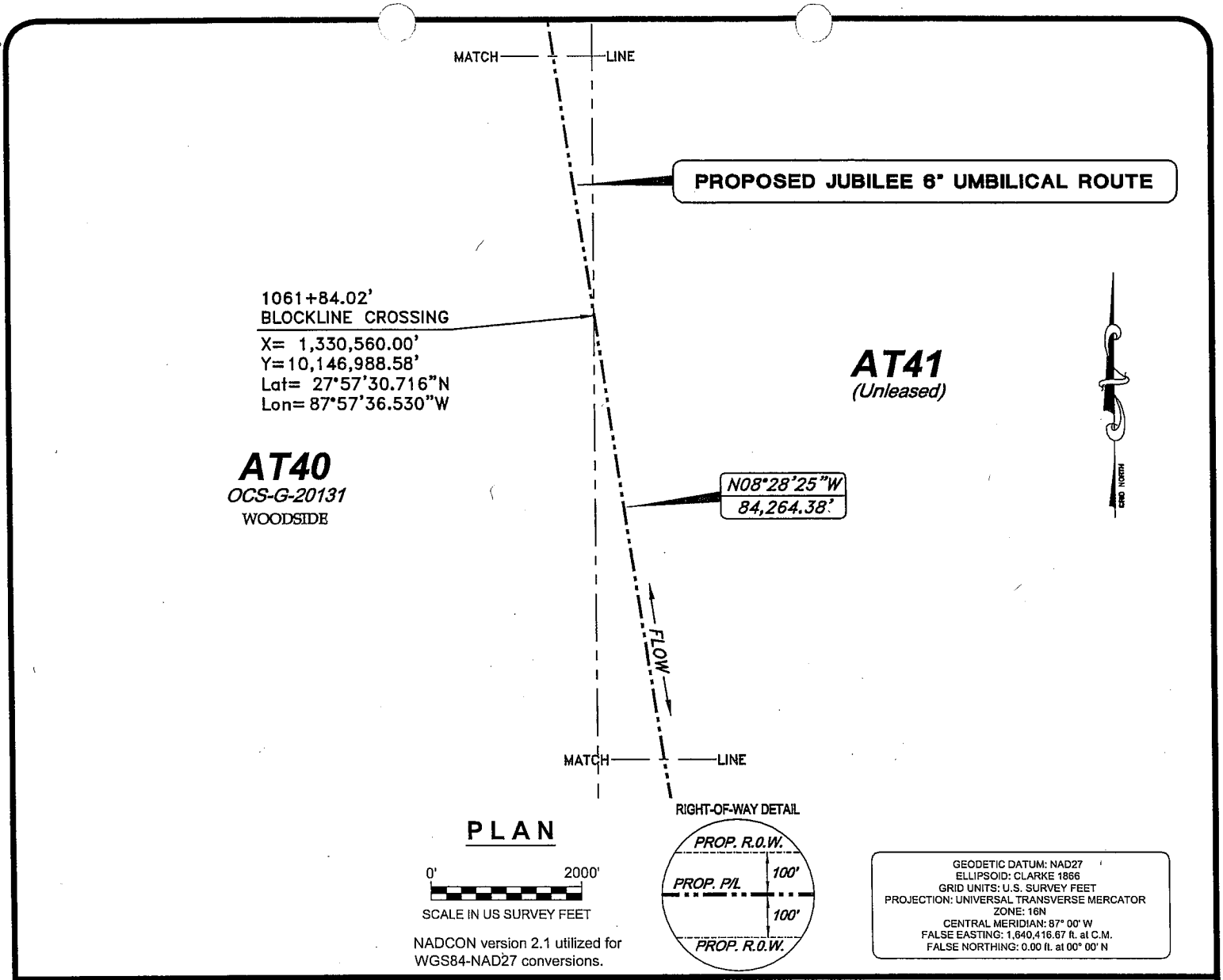
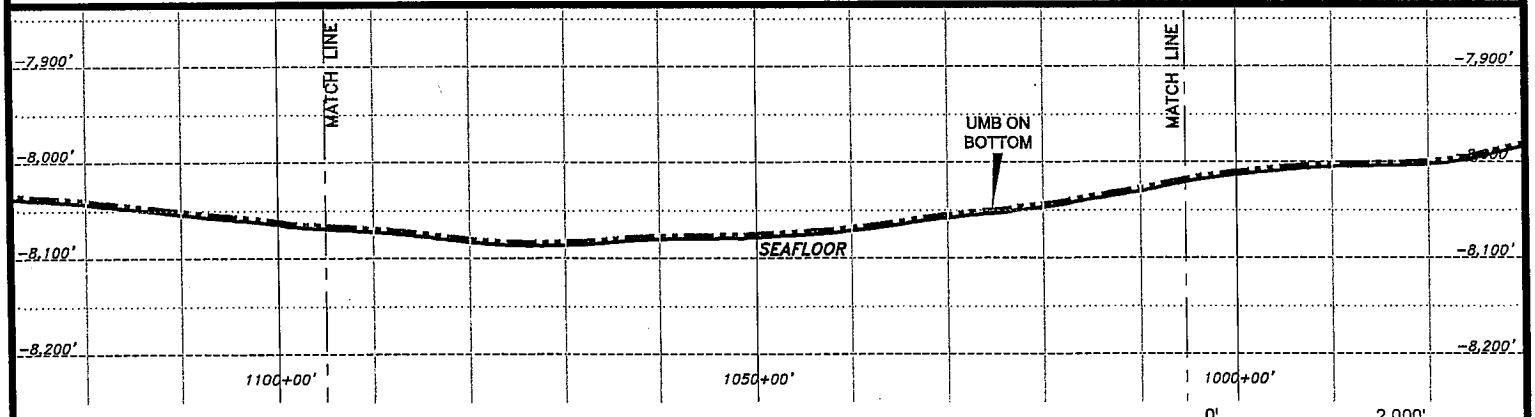
Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 12 of 18





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Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
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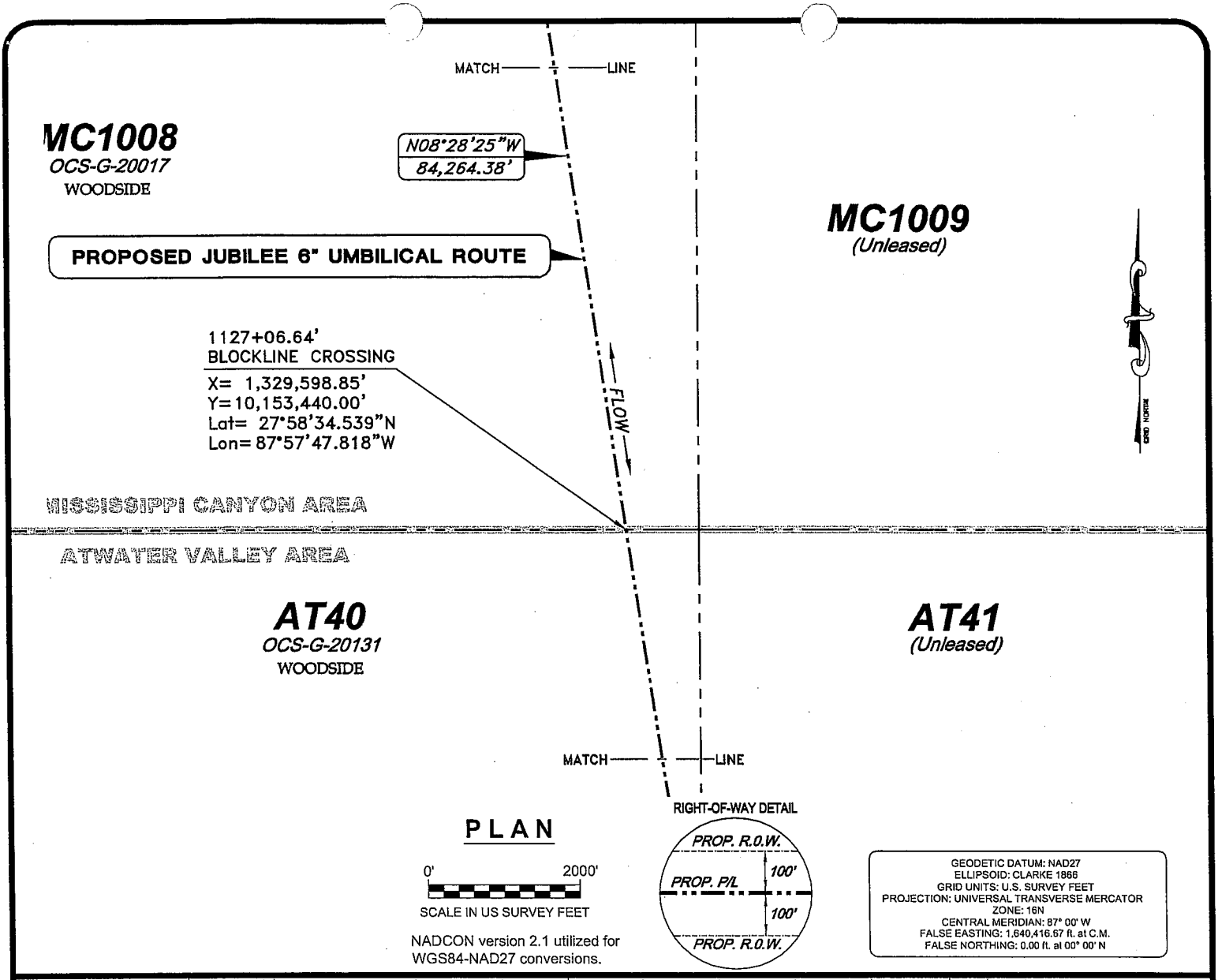
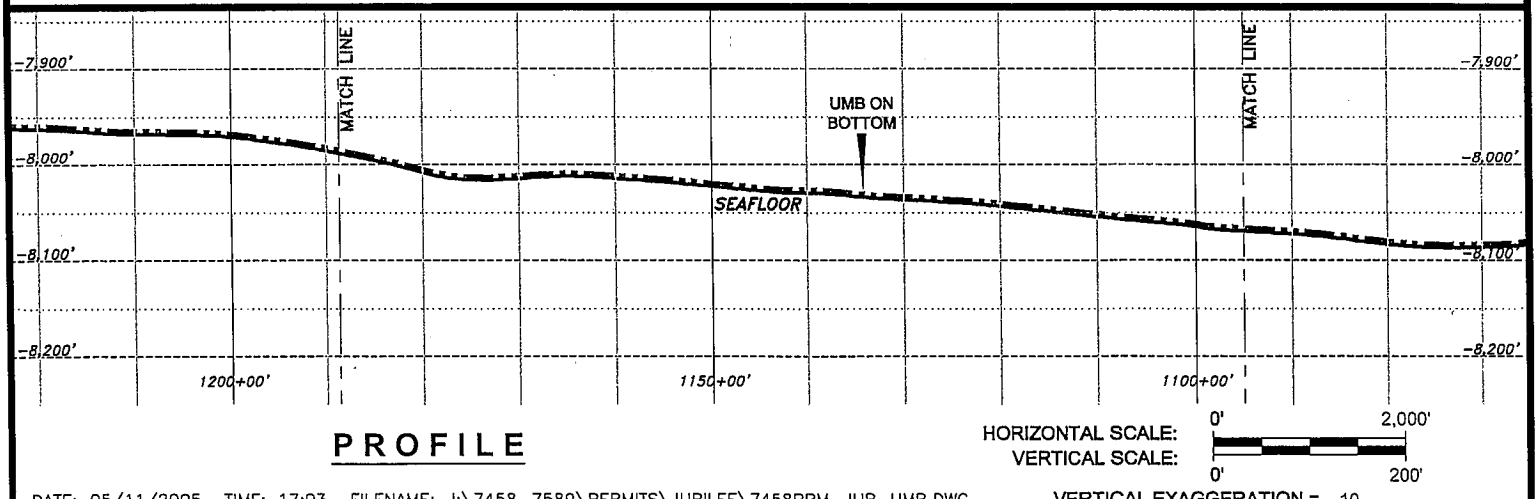
PREPARED BY:	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 13 of 18





DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
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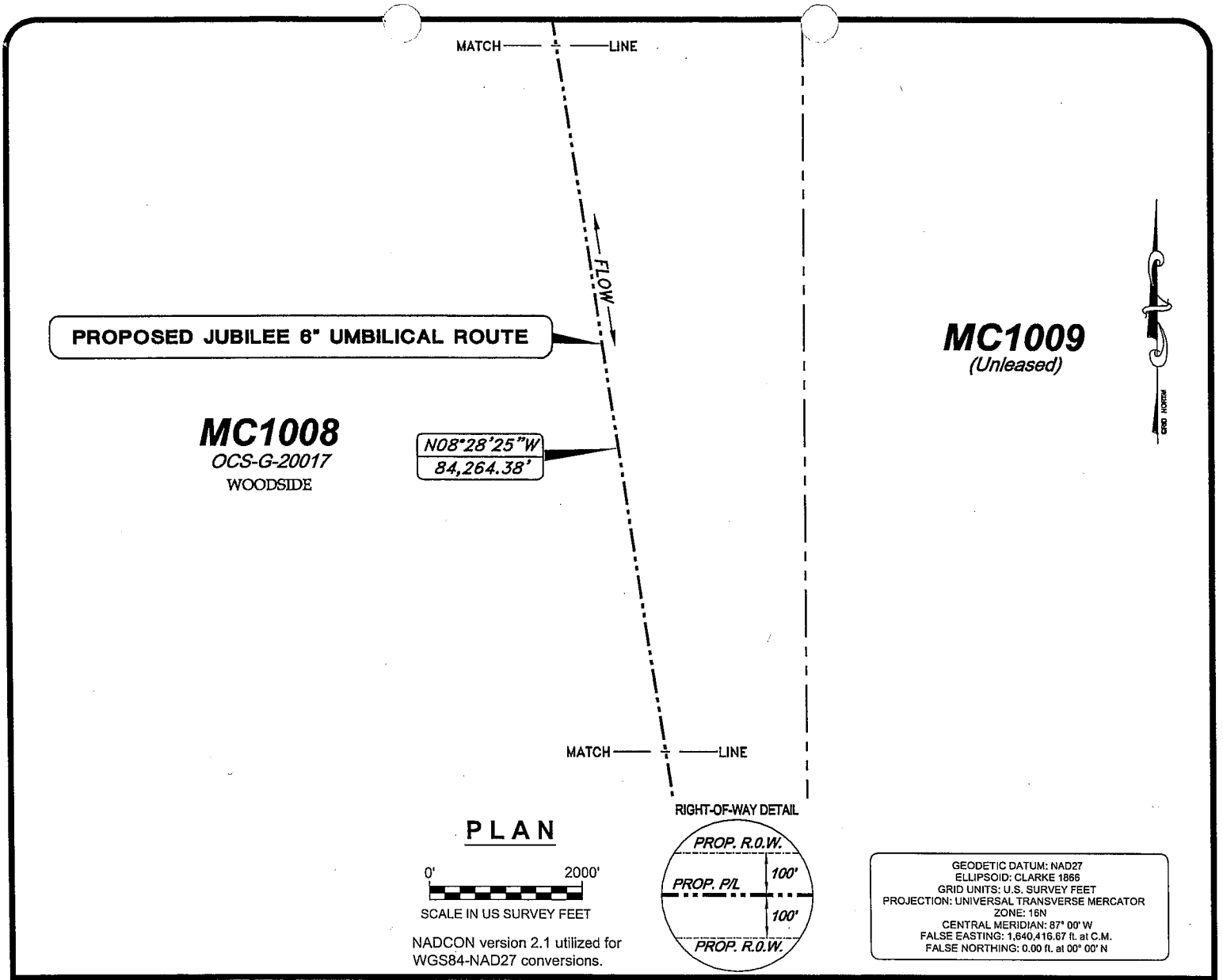
JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 14 of 18



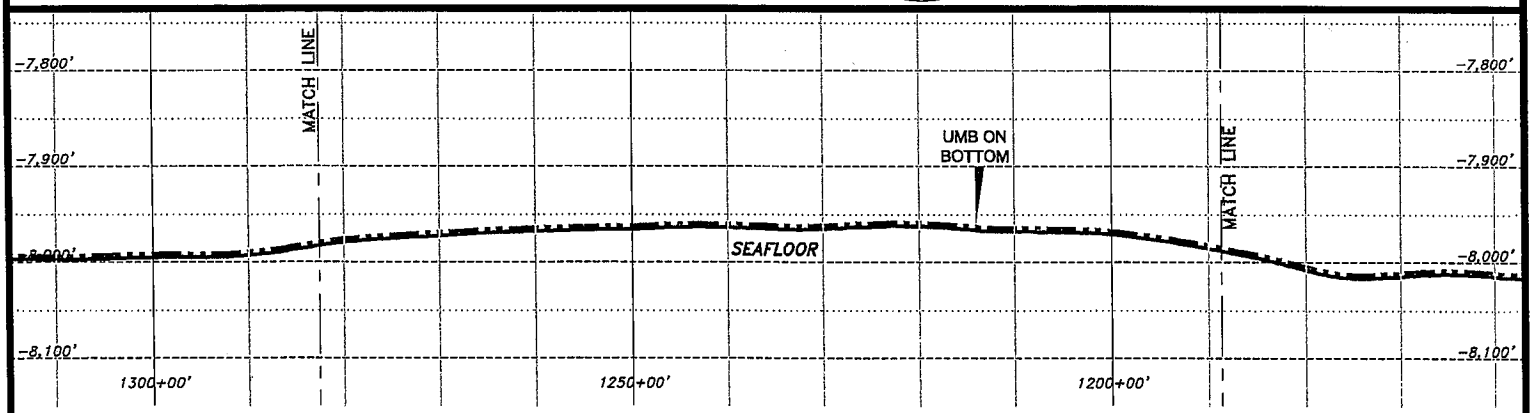
PLAN

0' 2000'

SCALE IN US SURVEY FEET

NADCON version 2.1 utilized for WGS84-NAD27 conversions.

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

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Block 305, Well # 1 (SUTA), Atwater Valley Area
to
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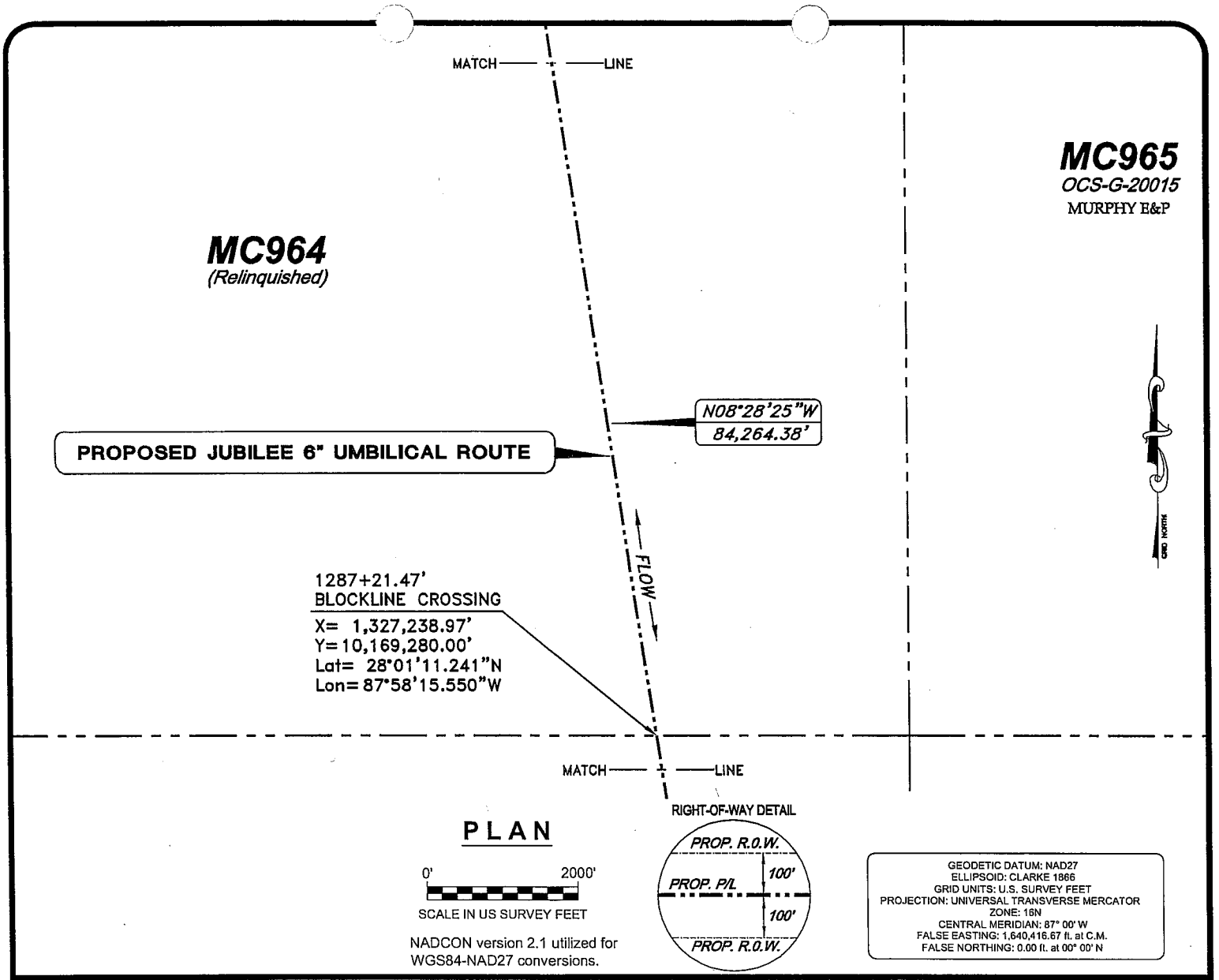
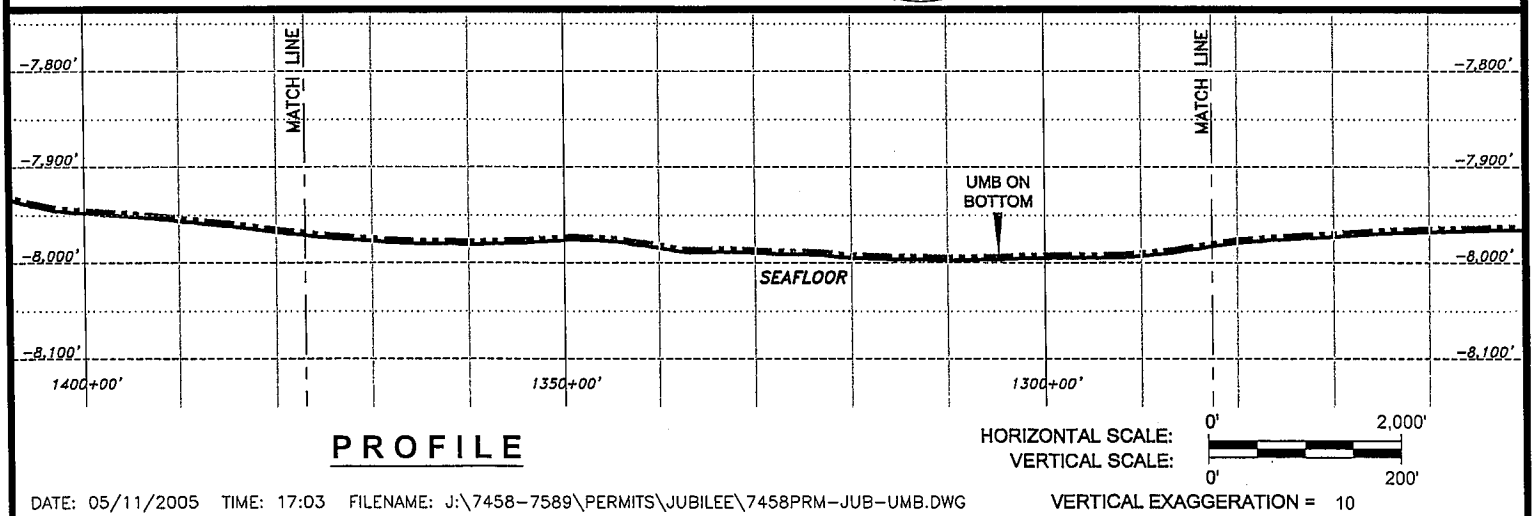
Mississippi Canyon Area

PREPARED BY: C&C Technologies SURVEY SERVICES
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589
FILENAME: 7458PRM-JUB-UMB.DWG
REVISED:
DATE: May 11, 2005
SHEET 15 of 18





Anadarko Petroleum Corporation

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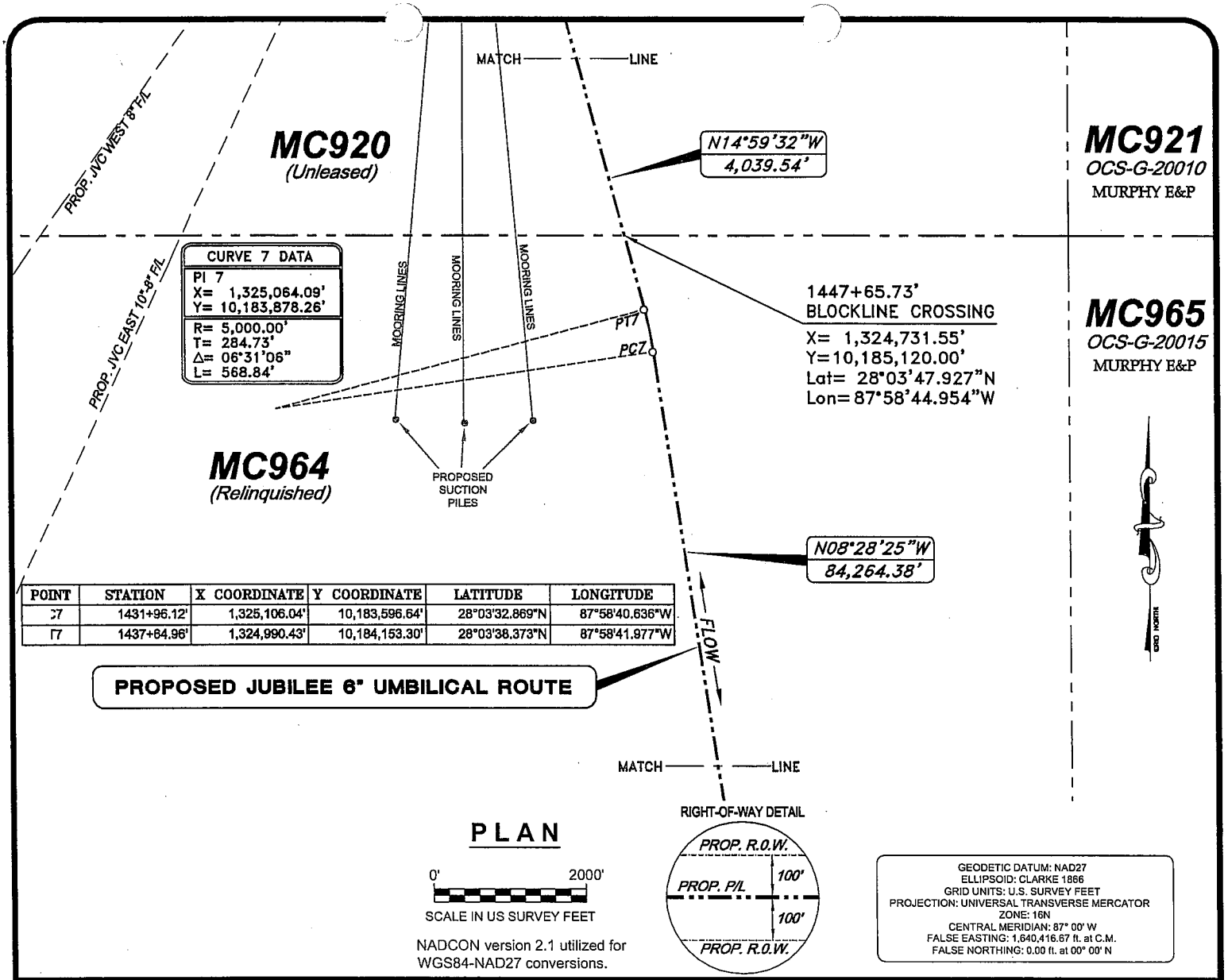
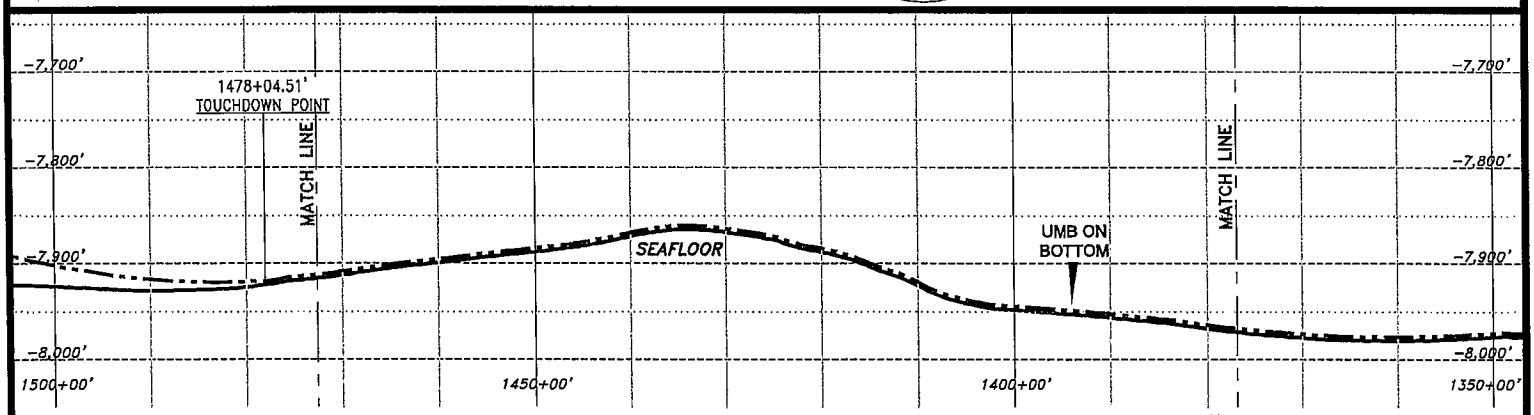
PREPARED BY: C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 16 of 18



POINT	STATION	X COORDINATE	Y COORDINATE	LATITUDE	LONGITUDE
PZ	1431+96.12'	1,325,106.04'	10,183,596.64'	28°03'32.869"N	87°58'40.636"W
PT7	1437+64.96'	1,324,990.43'	10,184,153.30'	28°03'38.373"N	87°58'41.977"W

GEODETIC DATUM: NAD27
ELLIPSOID: CLARKE 1866
GRID UNITS: U.S. SURVEY FEET
PROJECTION: UNIVERSAL TRANSVERSE MERCATOR
ZONE: 16N
CENTRAL MERIDIAN: 87° 00' W
FALSE EASTING: 1,640,416.67 ft. at C.M.
FALSE NORTHING: 0.00 ft. at 00° 00' N



PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

VERTICAL EXAGGERATION = 10

Anadarko Petroleum Corporation

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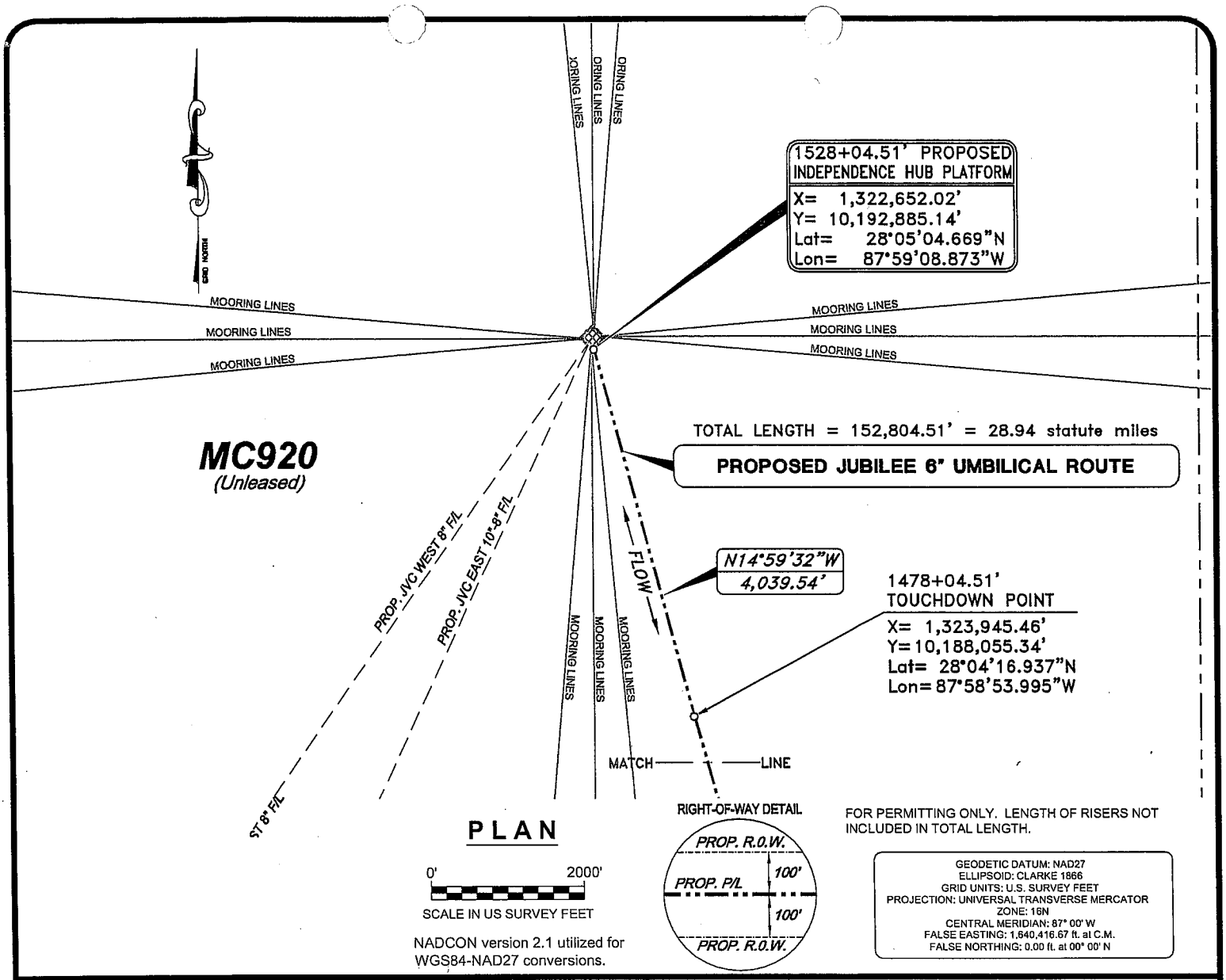
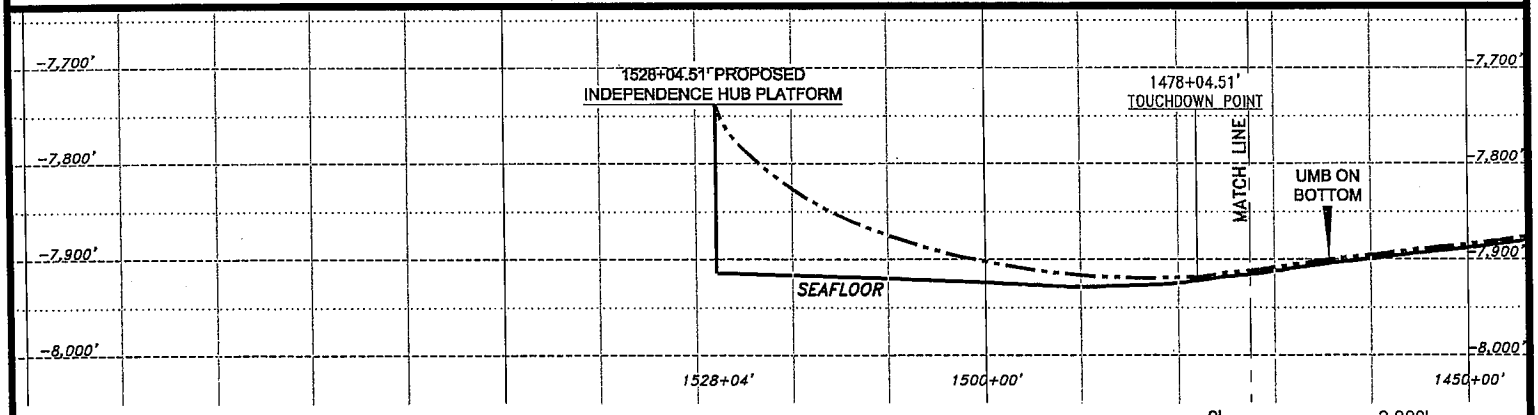
730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660

JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 17 of 18





PROFILE

HORIZONTAL SCALE: 0' 2,000'
VERTICAL SCALE: 0' 200'

DATE: 05/11/2005 TIME: 17:03 FILENAME: J:\7458-7589\PERMITS\JUBILEE\7458PRM-JUB-UMB.DWG

VERTICAL EXAGGERATION = 10

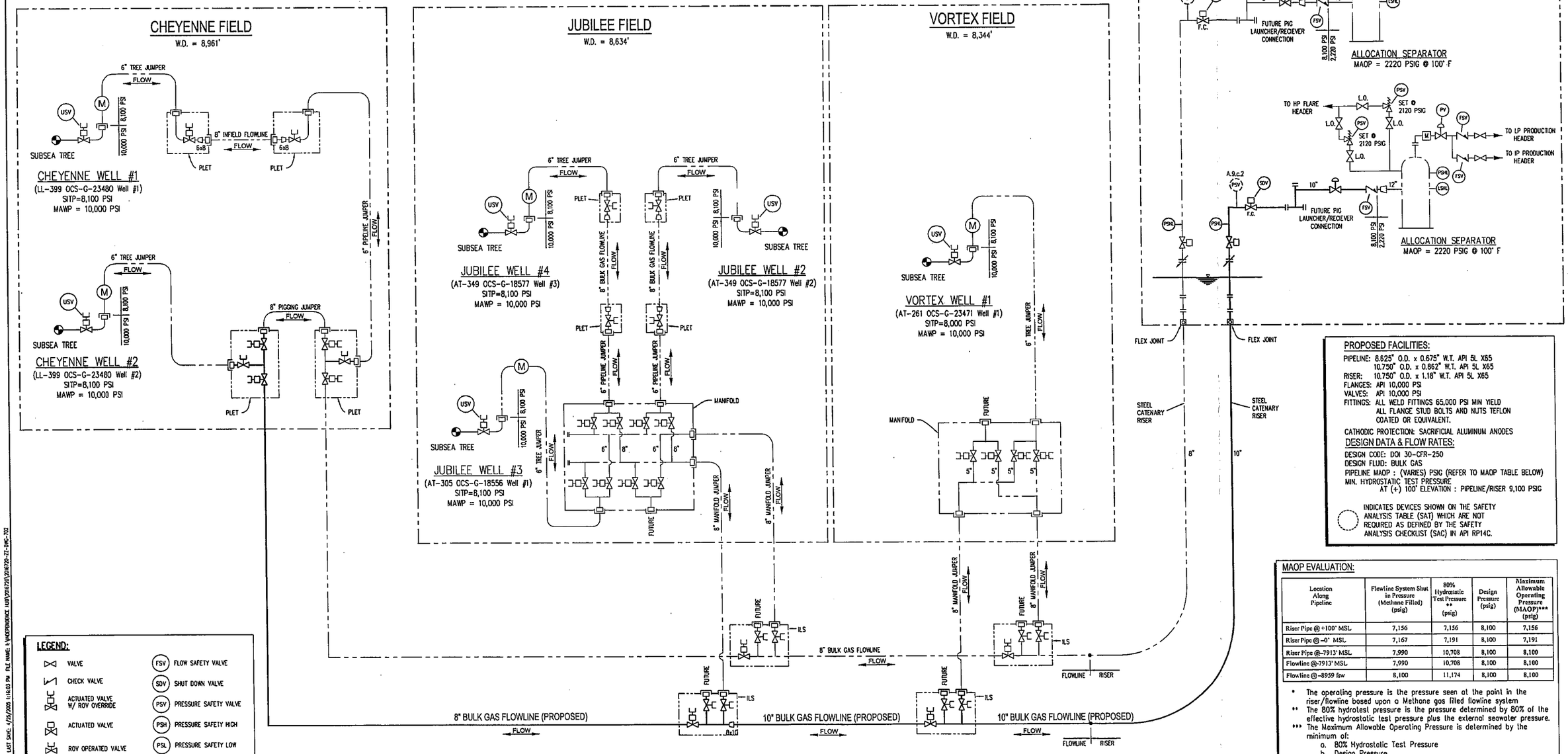
Anadarko Petroleum Corporation

PROP. JUBILEE 6" UMBILICAL ROUTE

Block 305, Well # 1 (SUTA), Atwater Valley Area
to
Block 920, Independence Hub Platform
Mississippi Canyon Area

PREPARED BY:	JOB No: 7458-7589	REVISED:	DATE: May 11, 2005
C&C Technologies SURVEY SERVICES 730 E. KALISTE SALOOM ROAD, LAFAYETTE, LA (337) 261-0660	FILENAME: 7458PRM-JUB-UMB.DWG		SHEET 18 of 18

Attachment F



PROPOSED FACILITIES:

PIPELINE: 8.625" O.D. x 0.675" W.T. API 5L X65
10.750" O.D. x 0.862" W.T. API 5L X65
RISER: 10.750" O.D. x 1.18" W.T. API 5L X65
FLANGES: API 10,000 PSI
VALVES: API 10,000 PSI
FITTINGS: ALL WELD FITTINGS 65,000 PSI MIN YIELD
ALL FLANGE STUD BOLTS AND NUTS TEFLON COATED OR EQUIVALENT.
CATHODIC PROTECTION: SACRIFICIAL ALUMINUM ANODES

DESIGN DATA & FLOW RATES:

DESIGN CODE: DOI 30-CFR-250
DESIGN FLUID: BULK GAS
PIPELINE MAOP : (VARIES) PSIG (REFER TO MAOP TABLE BELOW)
MIN. HYDROSTATIC TEST PRESSURE
AT (+) 100' ELEVATION : PIPELINE/RISER 9,100 PSIG

(○) INDICATES DEVICES SHOWN ON THE SAFETY ANALYSIS TABLE (SAT) WHICH ARE NOT REQUIRED AS DEFINED BY THE SAFETY ANALYSIS CHECKLIST (SAC) IN API RP14C.

MAOP EVALUATION:

Location Along Pipeline	Flowline System Shut in Pressure (Methane Filled) (psig)	80% Hydrostatic Test Pressure ** (psig)	Design Pressure (psig)	Maximum Allowable Operating Pressure (MAOP)*** (psig)
Riser Pipe @ +100' MSL	7,156	7,156	8,100	7,156
Riser Pipe @ -0' MSL	7,167	7,191	8,100	7,191
Riser Pipe @ -7913' MSL	7,990	10,708	8,100	8,100
Flowline @ -7913' MSL	7,990	10,708	8,100	8,100
Flowline @ -8959 fsw	8,100	11,174	8,100	8,100

* The operating pressure is the pressure seen at the point in the riser/flowline based upon a Methane gas filled flowline system
** The 80% hydrotest pressure is the pressure determined by 80% of the effective hydrostatic test pressure plus the external seawater pressure.
*** The Maximum Allowable Operating Pressure is determined by the minimum of:
a. 80% Hydrostatic Test Pressure
b. Design Pressure

LEGEND:

	VALVE	FSV	FLOW SAFETY VALVE
	CHECK VALVE	SDV	SHUT DOWN VALVE
	ACTUATED VALVE W/ ROV OVERRIDE	PSV	PRESSURE SAFETY VALVE
	ACTUATED VALVE	PSH	PRESSURE SAFETY HIGH
	ROV OPERATED VALVE	PSL	PRESSURE SAFETY LOW
	RELIEF VALVE	USV	UNDERWATER SAFETY VALVE
	INSULATING FLANGE	NC	NORMALLY CLOSED
	FLOW ELEMENT (ORIFICE)	FC	FAIL CLOSED
	CONTROL VALVE	LO	LOCK OPEN
	PROPOSED	M	SUBSEA METER

NOTES:
1. PLATFORM SAFETY SYSTEM WILL BE SET TO SHUT-IN THE SUPPLY AND AND PIPELINE SDV UPON HIGH PRESSURE FROM PSH. PRESSURE SAFETY LO (PSL) SET AT 10% BELOW NORMAL OPERATING PRESSURE

NO.	DATE	BY	REVISION DESCRIPTION
B	04/25/05	RKA	RE-ISSUED FOR REVIEW AND COMMENT
A	04/04/05	RKA	ISSUED FOR REVIEW AND COMMENT

THE INFORMATION PROVIDED ON THIS DRAWING IS NOT TO BE ACCEPTED AS VALID UNLESS AN ORIGINAL PROFESSIONAL ENGINEER'S STAMP IS INCLUDED IN THE SPACE PROVIDED AND THE STAMP IS ACCOMPANIED BY THE ORIGINAL DATE AND SIGNATURE OF THE ENGINEER.

ENGINEER'S STAMP:

DRAWN BY: R. ACREE
DATE: 04/04/05
CHECKED BY: JLB
DATE: 04/04/2005
APPROVED BY:
DATE:
PLOT SCALE: 1=1
SCALE: N.T.S.
SCALE VALID FOR D-SIZE DRAWING ONLY (24"x36")

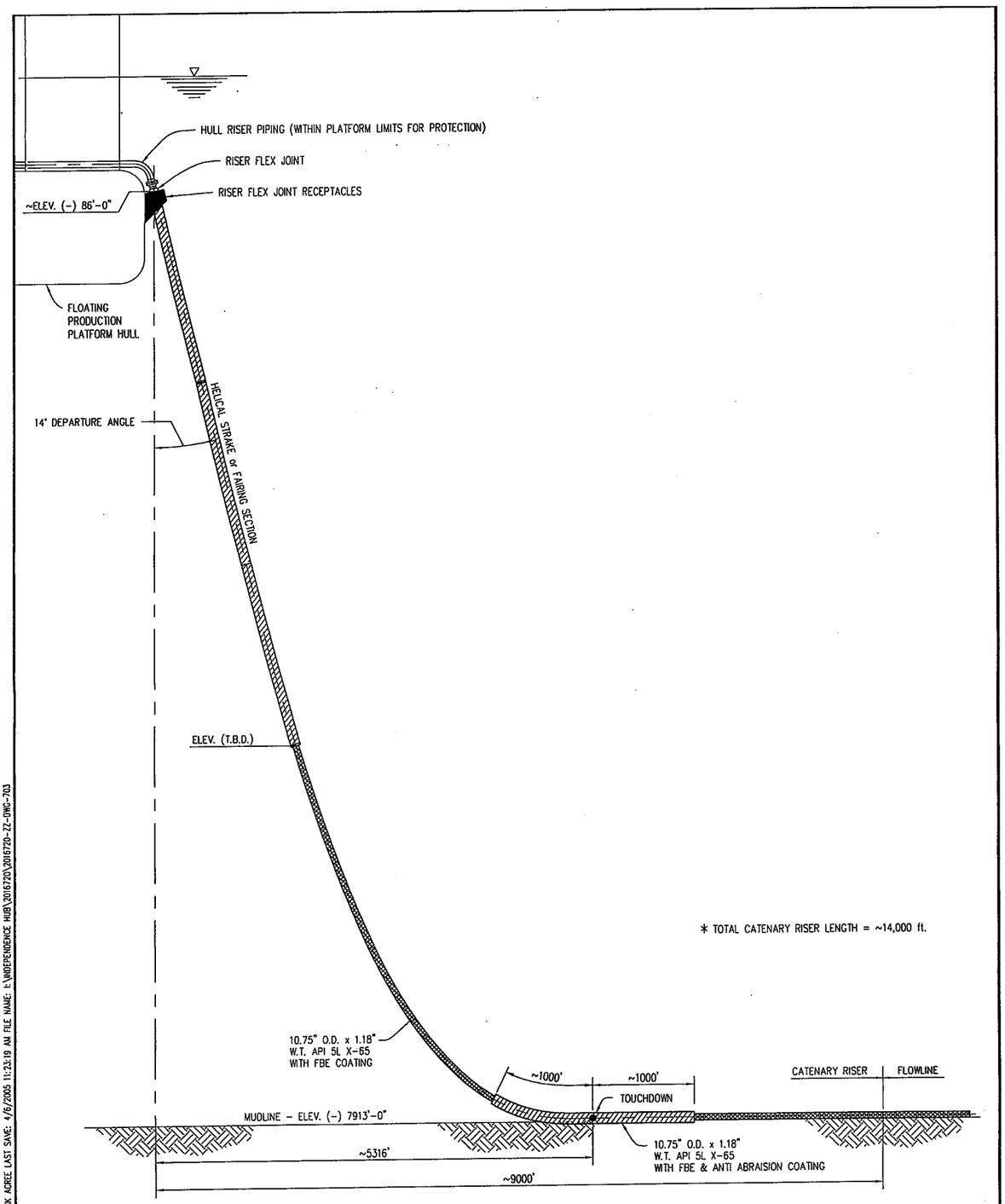
INDEPENDENCE HUB

MC-920 INDEPENDENCE HUB DEVELOPMENT

JUBILEE, VORTEX & CHEYENE
EAST 8"/10" BULK GAS FLOWLINE
SAFETY FLOW SCHEMATIC

JOB NO. 2016720
DWG NO. 2016720-ZZ-DWG-702
REV. B

PLOT: Monday, April 25, 2005 3:31:27 PM BY: RICK ACREE LAST SAVE: 4/25/2005 1:16:03 PM FILE NAME: I:\INDEPENDENCE HUB\PLTFRM\DWG\720-ZZ-DWG-702



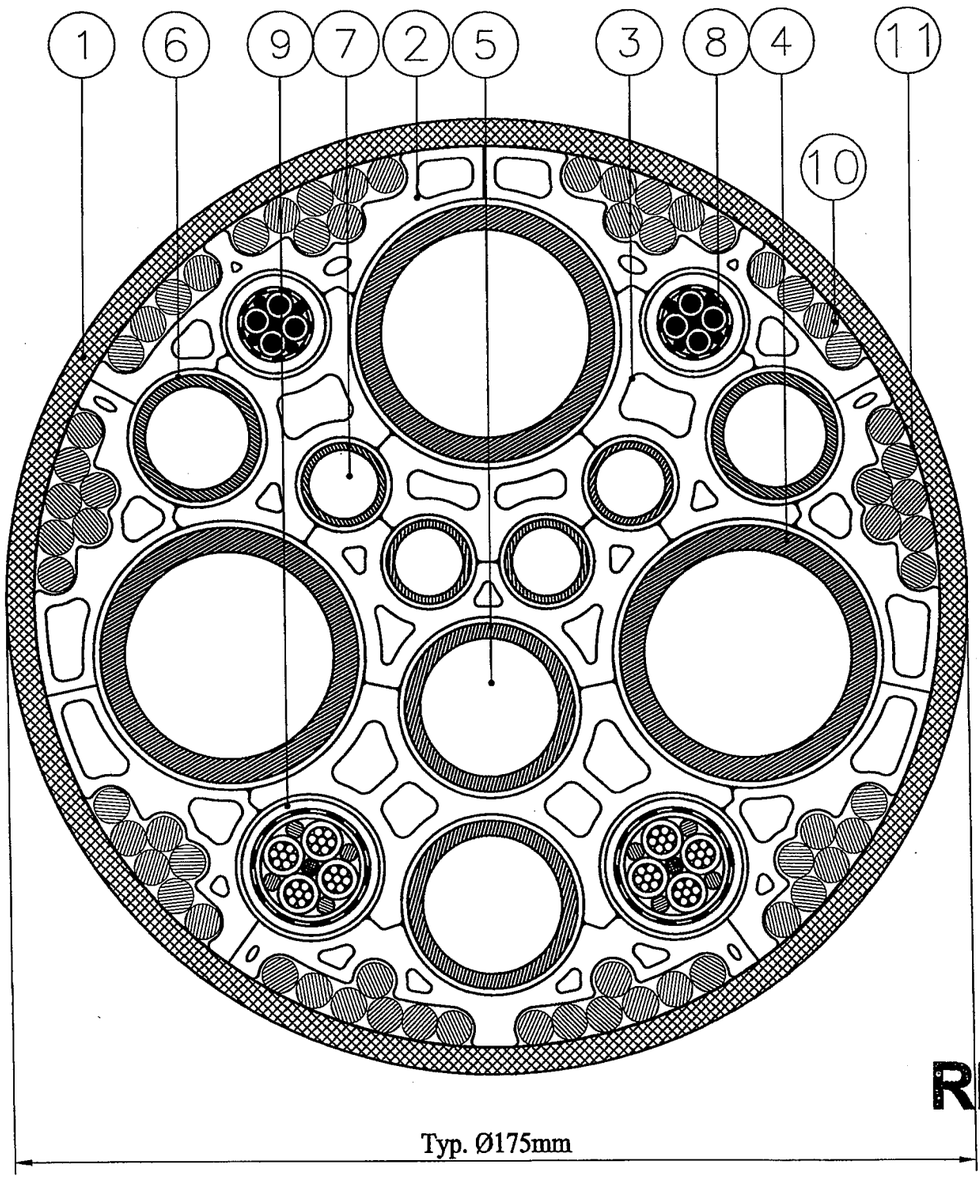
10" ø BULK GAS STEEL CATENARY RISER ELEVATION

SCALE: N.T.S.

PLOT: Wednesday, April 06, 2005 6:02:01 PM BY: RICK ACREE LAST SAVE: 4/6/2005 11:23:19 AM FILE NAME: E:\INDEPENDENCE HUB\2016720\2016720-ZZ-DWG-703

INDEPENDENCE HUB	MC-920 INDEPENDENCE HUB DEVELOPMENT	DWG NO. 2016720-ZZ-DWG-703	
		JOB NO. 2016720	
	JUBLIEE, VORTEX & CHEYENE EAST 8"/10" BULK GAS FLOWLINE SCR & RISER PROTECTION AT MC-920	SCALE: 1=1	
		SCALE VALID FOR A-SIZE DRAWING (8.5" x 11") ONLY.	REV. A
DRAWN BY: R. ACREE	ORIGIN. DATE: 04/06/05	REV. DATE:	

Attachment G



TECHNICAL DATA

Umbilical weight in air, empty:	373 N/m
Umbilical weight in air, fluid filled:	437 N/m
Umbilical weight in water, fluid filled:	194 N/m
Design tension capacity of umbilical:	1146 kN
Breaking strenght of umbilical:	2228 kN

	11	Bonding				
64	10	Carbon Fibre Rods	OD=6.5 mm			
2	9	Electric Cable	16mm2 TSQ OD=23 mm			
2	8	Electric Cable	6mm2 TSQ OD=18 mm			
4	7	Steel Tube	1/2" x 1.27 mm 10000 psi			Super Duplex
2	6	Steel Tube	3/4" x 2.05 mm 10000 psi			Super Duplex
2	5	Steel Tube	1" x 2.97mm 10000 psi			Super Duplex
3	4	Steel Tube	1 1/2" x 4.4 mm 10000 psi			Super Duplex
5	3	Intemediate Conduit				PVC
6	2	Outer Conduit				PVC
1	1	Outer Sheathing,				PE

TK/PC / Best.nr./Purch.No	Ant./Qtn.	Pos. nr. / PT.NO	Navn / Type / Name / Type	Dimensjon / Dimension	Kg/stk. / Kg/each	Referanse / Reference	Materiale / Material

Additional information/Notes

Utgitt/Laget / Issued/Resp.	Lev. dato / Date of del.
Godkjent/Purchaser Antegod/Site	
Dr.Lnr./Drw.no. Indeks/Index	

Date 23.02.2005 | Drawn PHG | Checked | Approved

Reason for issue: Issued for IDC

Title: MC-920 POWER HUB DYNAMIC SPIDERMAN&VORTEX BASE CASE

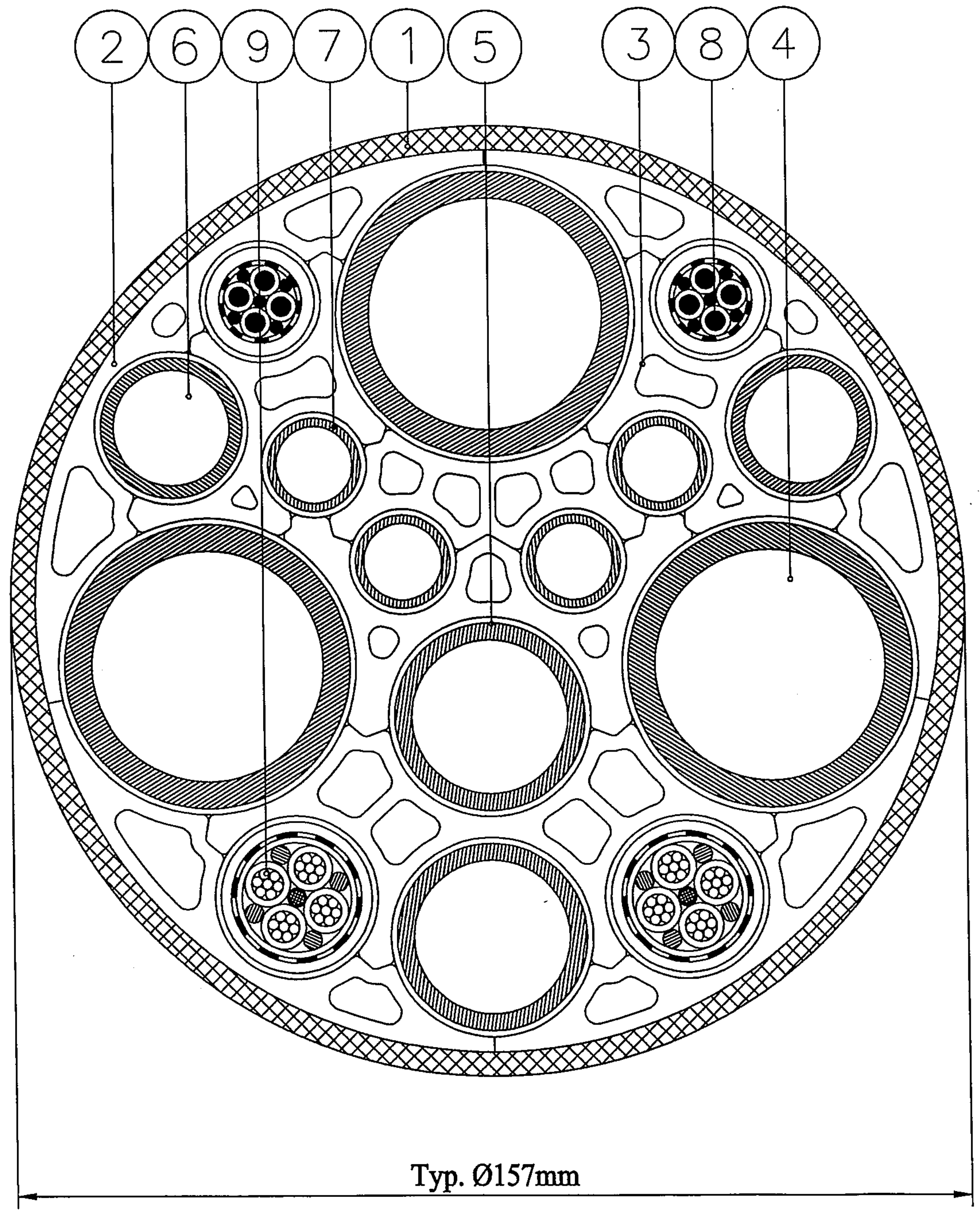
Drawing no. 11-MB0261-00 | Rev.no. A | Part no.

CAD Ref. Autocad | Scale 1:1 | Size A3 | Sheet No. 1 / 1

Kværner Oilfield Products a.s
Prof. Kobbs vei 5,P.O. Box 94, N-1325 Lysaker Norway

KVÆRNER™

Attachment H
page 2 of 2



Typ. Ø157mm

TECHNICAL DATA

Umbilical weight in air, empty:	300 N/m
Umbilical weight in air, fluid filled:	363 N/m
Umbilical weight in water, fluid filled:	168 N/m
Design tension capacity of umbilical:	1016 kN
Breaking strenght of umbilical:	1969 kN

TK/PC Ant./Qnt Best.nr. Purch No	Pos. no. PT.NO	Navn / Type Name / Type	Dimensjon Dimension	Kg/stk. Kg/each	Referanse Reference	Materiale Material
2	9	Electric Cable	16mm2 TSQ OD=25 mm			
2	8	Electric Cable	6mm2 TSQ OD=17.5 mm			
4	7	Steel Tube	1/2" x 1.13 mm 10000 psi			Super Duplex
2	6	Steel Tube	3/4" x 1.84 mm 10000 psi			Super Duplex
2	5	Steel Tube	1" x 2.61 mm 10000 psi			Super Duplex
3	4	Steel Tube	1 1/2" x 3.95 mm 10000 psi			Super Duplex
5	3	Intemediate Conduit				PVC
4	2	Outer Conduit				PVC
1	1	Outer Sheathing.				PE

Lev. dato / Date of del.
Additional Information/Notes

Utgitt/Issued Ansv/Resp.

Date	Drawn	Checked	Approved
29.03.2005	MKa		

Reason for issue: RE-ISSUED FOR IDC

Bestiller/Purchaser Anlegg/Site

Title: MC-920 POWER HUB SPIDERMAN & VORTEX STATIC & EXTENSION

CAD Ref. Autocad

Scale 1:1

Size A3

Ord.nr./Ord.no. Indeks/Index

Drawing no. 11-MB0262-00

Rev.no. B

Part no.

Sheet No. 1 / 1

Kværner Oilfield Products a.s

Prof. Kohts vei 5,P.O. Box 94, N-1325 Lysaker Norway

KVÆRNER™

ANADARKO PETROLEUM CORPORAT

TEL: (832) 636-1000
P. BOX 1330 • HOUSTON, TX 77251-1330

Anadarko

VIA CERTIFIED MAIL – RETURN RECEIPT

May 13, 2005

BHP Billiton Petroleum (Deepwater), Inc.
1360 Post Oak Boulevard, Suite 150
Houston, TX 77056-3020

ATTN: Scott Cornwell

RE: Application for an 8" x 10" Bulk Gas Right-of-Way Pipeline and associated umbilical to be Installed in and/or Through Block 84 Atwater Valley Area, OCS Federal Waters, Gulf of Mexico, Offshore

Mr. Cornwell:

In accordance with 30 CFR, Part 250.1010(c), Anadarko Petroleum Corporation hereby gives notice we have made application with the Minerals Management Service to install the referenced 8" x 10" bulk gas right-of-way pipeline with associated umbilical. The proposed pipeline crosses BHP Billiton's Atwater Valley Area Block 84, as shown on the attached application.

We hereby request a letter of no objection to this proposal. Please send your response to my attention at the address above. I can be reached at (832) 636-8758 if you have any questions. Your prompt response would be greatly appreciated.

Sincerely,

Susan Hathcock
Supervisor, Regulatory & Environmental

SH:sj

Enclosures

ANADARKO PETROLEUM CORPORATION

TEL: (832) 636-1000
P.O. BOX 1330 • HOUSTON, TX 77251-1330

Anadarko

VIA CERTIFIED MAIL – RETURN RECEIPT

May 13, 2005

Devon Energy Production
1200 Smith St., Suite 3300
Houston, TX 77002

ATTN: Mark Gress

RE: Application for an 8" x 10" Bulk Gas Right-of-Way Pipeline and associated umbilical to be Installed in and/or Through Block 39 Atwater Valley Area and Block 1007 Mississippi Canyon Area, OCS Federal Waters, Gulf of Mexico, Offshore

Mr. Gress:

In accordance with 30 CFR, Part 250.1010(c), Anadarko Petroleum Corporation hereby gives notice we have made application with the Minerals Management Service to install the referenced 8" x 10" bulk gas right-of-way pipeline with associated umbilical. The proposed pipeline crosses Devon's Atwater Valley Area Block 39 and Mississippi Canyon Area Block 1007, as shown on the attached application.

We hereby request a letter of no objection to this proposal. Please send your response to my attention at the address above. I can be reached at (832) 636-8758 if you have any questions. Your prompt response would be greatly appreciated.

Sincerely,

Susan Hathcock

Susan Hathcock
Supervisor, Regulatory & Environmental

SH:sj

Enclosures

ANADARKO PETROLEUM CORPORATION

TEL: (832) 636-1000
P.O. BOX 1330 • HOUSTON, TX 77251-1330

Anadarko

VIA CERTIFIED MAIL – RETURN RECEIPT

May 13, 2005

Nexen Petroleum USA, Inc.
12790 Merit Dr., Suite 800
Dallas, TX 75251

ATTN: Bob Baker

RE: Application for an 8" x 10" Bulk Gas Right-of-Way Pipeline and associated umbilical to be Installed in and/or Through Blocks 128 and 129 Atwater Valley Area, OCS Federal Waters, Gulf of Mexico, Offshore

Mr. Baker:

In accordance with 30 CFR, Part 250.1010(c), Anadarko Petroleum Corporation hereby gives notice we have made application with the Minerals Management Service to install the referenced 8" x 10" bulk gas right-of-way pipeline with associated umbilical. The proposed pipeline crosses Nexen's Atwater Valley Area Blocks 128 and 129, as shown on the attached application.

We hereby request a letter of no objection to this proposal. Please send your response to my attention at the address above. I can be reached at (832) 636-8758 if you have any questions. Your prompt response would be greatly appreciated.

Sincerely,

Susan Hathcock

Susan Hathcock
Supervisor, Regulatory & Environmental

SH:sj

Enclosures

ANADARKO PETROLEUM CORPORATION
TEL: (832) 636-1000
P.O. BOX 1330 • HOUSTON, TX 77251-1330

Anadarko

VIA CERTIFIED MAIL – RETURN RECEIPT

May 13, 2005

Woodside Energy (USA), Inc.
Sage Plaza
5151 San Felipe, Suite 1200
Houston, TX 77056

ATTN: Dave Mason

RE: Application for an 8" x 10" Bulk Gas Right-of-Way Pipeline and associated umbilical to be Installed in and/or Through Block 40 Atwater Valley Area and Block 1008 Mississippi Canyon Area, OCS Federal Waters, Gulf of Mexico, Offshore

Mr. Mason:

In accordance with 30 CFR, Part 250.1010(c), Anadarko Petroleum Corporation hereby gives notice we have made application with the Minerals Management Service to install the referenced 8" x 10" bulk gas right-of-way pipeline with associated umbilical. The proposed pipeline crosses Woodside's Atwater Valley Area Block 40 and Mississippi Canyon Area Block 1008, as shown on the attached application.

We hereby request a letter of no objection to this proposal. Please send your response to my attention at the address above. I can be reached at (832) 636-8758 if you have any questions. Your prompt response would be greatly appreciated.

Sincerely,

Susan Hathcock

Susan Hathcock
Supervisor, Regulatory & Environmental

SH:sj

Enclosures

Attachment J

CZM CONSISTENCY CERTIFICATION

The Louisiana Coastal Zone Management Program includes the following: general coastal use guidelines, levees, linear facilities (pipelines); dredged soil deposition; shoreline modifications, surface alterations, hydrologic and sediment transport modifications, waste disposal; uses that result in the alteration of waters draining into coastal waters; oil, gas, or other mineral activities; and air and water quality.

Relevant enforceable policies were considered in certifying consistency for Louisiana.

The Florida Coastal Zone Management Program includes the following: The Florida Coastal Zone Management Act authorized the development of the coastal management program. A network of agencies comprises the coastal management agencies to represent a balanced statewide perspective including interests in coastal development, professional/academic coastal science, commercial fishing, environmental/coastal conservation, local government, coast/marine commerce, energy development, recreational fishing/boating, regional planning councils, water management districts, and environmental education. The purpose of the program is to protect historic and archaeological resources, freshwater fish, birds, and both upland game and no-game animals, including endangered species; development, maintenance, and protection of the transportation systems, and the saltwater fisheries and marine mammals.

CZM Consistency Certifications for Louisiana and Florida are enclosed.

ANADARKO PETROLEUM CORPORATION

TEL. 832/ 636-1000
P.O. BOX 1330 • HOUSTON, TEXAS 77251-1330

Anadarko

May 13, 2005

Coastal Management Division
ATTN: OCS Plans
P. O. Box 44487
Baton Rouge, LA 70804-4487

RE: CZM Consistency Certification
8"/10" Bulk Gas Pipeline Right-of-Way Application w/Associated Umbilical
From Lloyd Ridge Block 399 (Cheyenne) Pipeline End Termination Sled to Mississippi Canyon Block 920 Floating Production Platform (Independence Hub)

Gentlemen:

Enclosed is a copy of Anadarko Petroleum Corporation's application to the Minerals Management Service for an 8"/10" bulk gas pipeline right-of-way with associated umbilical to be installed in and/or through Lloyd Ridge Blocks 399, 398, 354, and 353; Atwater Valley Blocks 393, 349, 305, 261, 217, 173, 129, 128, 84, 40, and 39; and Mississippi Canyon Blocks 1007, 963, 964, and 920. The onshore support base for installation of the pipeline is Fourchon, Louisiana. Our check in the amount of $300.00 is enclosed covering the processing fee for a federal consistency determination for this right-of-way.

If you should have any questions, please call me at 832/636-8758.

Sincerely,

Susan Hathcock
Regulatory & Environmental Coordinator

SH/me

Enclosures (2)

COASTAL ZONE MANAGEMENT PROGRAM
CONSISTENCY CERTIFICATION

From Lloyd Ridge 399 Well No. 1 Pipeline End Termination Sled

To Mississippi Canyon Block 920 Floating Production Platform

44.84
Length (miles)

The proposed activities described in detail in this right-of-way pipeline application comply with the enforceable policies of Louisiana's approved Coastal Management Program(s) and will be conducted in a manner consistent with such Program(s).

Anadarko Petroleum Corporation
Right-of-Way Applicant

L. Susan Hathaway
Certifying Official

May 13 2005
Date

ANADARKO PETROLEUM CORPORATIC

TEL. 832/ 636-1000
P.O. BOX 1330 • HOUSTON, TEXAS 77251-1330

Anadarko

May 13, 2005

Ms. Lynn Griffin
Coastal Program Administrator
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, Mail Stop 47
Tallahassee, FL 32399-3000

RE: CZM Consistency Certification
8"/10" Bulk Gas Pipeline Right-of-Way Application w/Associated Umbilical
From Lloyd Ridge Block 399 (Cheyenne) Subsea Pipeline End Termination Sled to Mississippi Canyon Block 920 Floating Production Platform (Independence Hub)

Gentlemen:

Enclosed are seven (7) copies of Anadarko Petroleum Corporation's application to the Minerals Management Service for an 8"/10" bulk gas pipeline right-of-way with associated umbilical to be installed in and/or through Lloyd Ridge Blocks 399, 398, 354, and 353; Atwater Valley Blocks 393, 349, 305, 261, 217, 173, 129, 128, 84, 40, and 39; and Mississippi Canyon Blocks 1007, 963, 964, and 920. The onshore support base for installation of the pipeline is Fourchon, Louisiana.

If you should have any questions, please call me at 832/636-8758.

Sincerely,

Susan Hathcock

Susan Hathcock
Regulatory & Environmental Coordinator

SH/me

Enclosures (1)

CONSISTENCY CERTIFICATION

Anadarko Petroleum Corporation's Certification of Consistency with the State of Florida Coastal Management Program

INTRODUCTION

This Consistency Certification is an evaluation by Anadarko Petroleum Corporation (APC) of its proposed right-of-way (ROW) pipeline between APC's Independence Hub in Mississippi Canyon Block 920 and its proposed production subsea facility in Lloyd Ridge Area Block 399 for any reasonably foreseeable coastal effects on the land, water uses, or natural resources of the coastal zone of Florida, pursuant to the enforceable policies of the Florida Coastal Management Program (FCMP).

APC plans to lay a pipeline and an associated umbilical between the Independence Hub in Mississippi Canyon Block 920 and its subsea production facility in Lloyd Ridge Block 399. The pipeline is an 8-inch by 10-inch east flow pipeline. The activities proposed in the ROW pipeline application will occur in outer continental shelf (OCS) waters, offshore Alabama, approximately 214 miles from the nearest Florida shoreline. APC believes that the planned activities will have little, if any, effect beyond the area immediately adjacent to the proposed activity sites, and that the possibility of any impacts to Florida's coastal zone is remote. However, APC has undertaken this consistency evaluation and believes that the proposed activities comply with the enforceable policies of the FCMP and will be conducted in a manner consistent with this Program.

The activities will be conducted in accordance with Minerals Management Service (MMS) and U.S. Environmental Protection Agency (USEPA) regulations, applicable Notices to Lessees (NTLs), conditions in the approved permits, and lease stipulations. All required Federal permits will be obtained, and all activities will be conducted in compliance with such regulations, NTLs, conditions, and stipulations.

CONSISTENCY ANALYSIS

The FCMP is authorized by the Florida Coastal Management Act, Chapter 380, Land and Water Management, Part II, Coastal Planning and Management, of the Florida Statutes. For this consistency certification, APC has analyzed the proposed action in relation to 16 chapters of the Florida Statutes identified by the State as "core enforceable policies" having specific applicability to offshore oil and gas activity:

(1) Chapter 161 – Beach and Shore Preservation
(2) Chapter 252 – Emergency Management
(3) Chapter 253 – State Lands
(4) Chapter 258 – State Parks and Preserves
(5) Chapter 259 – Land Acquisitions for Conservation or Recreation
(6) Chapter 260 – Recreational Trails System
(7) Chapter 267 – Archives, History, and Records Management
(8) Chapter 288 – Commercial Development and Capital Improvements

(9) Chapter 370 – Saltwater Fisheries
(10) Chapter 372 – Wildlife
(11) Chapter 373 – Water Resources
(12) Chapter 375 – Outdoor Recreation and Conservation
(13) Chapter 376 – Pollution Discharge Prevention and Removal
(14) Chapter 377 – Energy Resources
(15) Chapter 403 – Environmental Control
(16) Chapter 582 – Soil and Water Conservation

1. Chapter 161 – Beach and Shore Preservation

The enforceable policies in this chapter recognize that coastal areas are among the State's most valuable natural, aesthetic, and economic resources and that they protect and provide habitat for a variety of plant and animal life. The State is required to protect beach and dune systems from imprudent activities that could weaken, damage, or destroy the integrity of the system, manage coastal sediments to reduce erosion, and restore and maintain critically eroding beaches. The State also designates coastal areas used, or likely to be used, by sea turtles for nesting and prohibits the removal of vegetative cover that binds sand. This chapter includes Part I, Regulation of Construction, Reconstruction, and Other Physical Activity; Part II, Beach and Shore Preservation Districts; and Part III, Coastal Zone Protection.

As APC will be using the existing dock and port facilities in the Port Fourchon, Louisiana area and helicopter facilities in Galliano, Louisiana during the proposed operations, there will be no new construction, dredging, or filling on Florida's lands or waters that could weaken, damage, or destroy the integrity of the system or cause erosion of beaches. In addition, oil spill impacts on Florida beaches and other coastal areas are highly unlikely due to (1) the measures detailed in APC's Sub-Regional Oil Spill Response Plan (OSRP), which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). The precautions included in APC's plan are consistent with the core policies of protecting beach and dune systems. Therefore, the proposed activities are consistent with Chapter 161.

2. Chapter 252 – Emergency Management

The enforceable policies of this chapter direct the State to reduce the vulnerability of its people and property to natural and manmade disasters; prepare for, respond to, and reduce the impacts of natural and manmade disasters; and decrease the time and resources needed to recover from disasters. Disaster mitigation is necessary to ensure the common defense of Floridians' lives and to protect the public peace, health, and safety. The policies provide the means to assist in the prevention or mitigation of emergencies that may be caused or aggravated by the inadequate planning or regulation of facilities and land uses. State agencies are directed to keep land uses and facility construction under continuing study and identify areas that are particularly susceptible to natural or manmade catastrophic occurrences.

The proposed activities do not involve construction or operation of any facilities in the State of Florida. Therefore, a large oil spill is the only emergency that is considered relevant to this

analysis. APC has developed a Sub-Regional OSRP that outlines response actions, inspection and maintenance of response equipment, required spill response drills, governmental notification procedures, inventories of response equipment, response team organization, spill movement monitoring, and contingency plans for oil spill containment, recovery, and removal. An oil spill is highly unlikely to reach Florida waters or shorelines due to (1) the measures detailed in APC's Sub-Regional OSRP and (2) the distance from shore (approximately 214 miles). The precautions included in APC's plan are consistent with the core policies of preparing for and responding to an oil spill and reducing the vulnerability of Florida's people and resources to impacts if such a spill occurred. Therefore, the proposed activities are consistent with Chapter 252.

3. Chapter 253 – State Lands

This chapter, in part, defines State-owned and State-managed lands and grants authority to acquire and lease lands and to grant rights-of-way and easements. The enforceable policies guide the management of State-owned and sovereign submerged lands and property by the Board of Trustees of the Internal Improvement Trust Fund (Trustees). Lands acquired for preservation, conservation, and recreation serve the public interest by contributing to the public health, welfare, and economy. In carrying out the requirements of this statute, the Trustees are directed to take necessary action to fully conserve and protect State lands, maintain natural conditions, protect and enhance natural areas and ecosystems, prevent damage and depredation, and preserve archaeological and historical resources. All submerged lands are considered single-use lands to be maintained in natural condition for the propagation of fish and wildlife and public recreation. Where multiple-uses are permitted, ecosystem integrity, recreational benefits, and wildlife values are conserved and protected.

During the operations along the pipeline route between Mississippi Canyon Block 920 and Lloyd Ridge Block 399, APC will not seek to lease or acquire rights-of-way across Florida State lands. The proposed operations will be conducted offshore Alabama, and at existing dock and port facilities located in the Port Fourchon, Louisiana area and helicopter facilities at Galliano, Louisiana. There will be no pipeline construction requiring acquisition of rights-of-way or easements on Florida State lands. In addition, oil spill impacts on State-owned and managed lands are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies to fully conserve and protect State lands and other natural areas and ecosystems. Therefore, the proposed activities are consistent with Chapter 253.

4. Chapter 258 – State Parks and Preserves

State parks, aquatic preserves, and recreation areas are acquired to exemplify the State's natural values and to ensure that these values are conserved for all time. Parks and preserves are managed for the non-depleting use, enjoyment, and benefit of Floridians and visitors and to contribute to the State's tourist appeal. Aquatic preserves are recognized as having exceptional biological, aesthetic, and scientific value and are set aside for the benefit of future generations. Disruptive physical activities and polluting discharges are highly restricted in aquatic preserves. State managed wild and scenic rivers possess exceptionally remarkable and unique ecological,

fish and wildlife, and recreational values and are designated for permanent preservation and enhancement for both the present and future.

Chapter 258 specifies limitations on dredge-and-fill activities, discharges, erection of structures, and drilling for oil or gas within aquatic preserves. APC's proposed activities along the proposed pipeline route are not within or adjacent to any State parks or aquatic preserves. Hydrostatic testing discharges for the proposed activity will be governed by the National Pollutant Discharge Elimination System (NPDES) General Permit or an Individual Permit; impacts will be localized in deep, offshore waters, and will not have any effect on State parks, aquatic preserves, and recreation areas. Finally, oil spill impacts in these coastal areas are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies of preserving and protecting the natural resources and aesthetic values of Florida's State parks, aquatic preserves, and recreation areas. Therefore, the proposed activities are consistent with Chapter 258.

5. Chapter 259 – Land Acquisitions for Conservation or Recreation

This chapter discusses the "Land Conservation Act" and the acquisition of lands or water areas for preservation, conservation, and recreational purposes. The chapter indicates an area is of special importance to the State if it involves an endangered or natural resource in imminent danger of development, is of unique value to the State, will result in irreparable loss to the State, or will impair the State's ability to manage or protect other State-owned lands. The enforceable policies guide the acquisition and management of lands to conserve and maintain the State's unique natural resources, protect environmental quality, and provide recreation opportunities for the benefit of future generations. Florida's legislature and citizens have made a tremendous financial commitment to long-term land acquisitions that will preserve and restore unique ecosystems, habitats, water resources, and recreational lands.

APC will be using existing dock and port facilities in Port Fourchon, Louisiana and helicopter facilities in Galliano, Louisiana during the proposed activities. Therefore, there will be no new development, construction, dredging, or filling on Florida's lands or waters. In addition, hydrostatic testing discharges for the proposed activity will be governed by the NPDES General Permit or an Individual Permit; impacts will be localized in deep, offshore waters and will not have any effect on Florida lands being acquired or managed for preservation, conservation, or recreational purposes. Finally, oil spill impacts in these coastal areas are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies of managing lands to conserve and maintain the State's unique natural resources, protect environmental quality, and provide recreation opportunities. Therefore, the proposed activities are consistent with Chapter 259.

6. Chapter 260 – Recreational Trails System

This chapter discusses the "Florida Greenways and Trails Act," and the State policies to conserve, develop, and use its natural resources for healthful and recreational purposes by the establishment of a "Florida Greenways and Trails System." The System serves to provide recreational opportunities, including, among others, canoeing, jogging, and historical and archaeological interpretation, by acquiring designated lands and waterways for open space to benefit environmentally sensitive lands and wildlife.

As APC will be using existing dock and port facilities in the Port Fourchon, Louisiana area and helicopter facilities in Galliano, Louisiana, there will be no new construction, dredging, or filling on Florida's lands or waters, and no motorized watercraft will conduct any operations within or adjacent to any defined canoe trail necessary to ensure the safe use of a water body for canoes. Therefore, the proposed activities are consistent with the core policies of Chapter 260.

7. Chapter 267 – Archives, History, and Records Management

This chapter discusses the "Florida Historical Resources Act," the State policy to locate, inventory, and evaluate historic properties, and the preservation by the Division of Historical Resources of the Department of State, of all historical property, including sunken or abandoned ships with intrinsic historical or archaeological value. The enforceable policies recognize the State's rich and unique heritage of historic resources and direct the State to locate, acquire, protect, preserve, operate, and interpret historic and archaeological resources for the benefit of current and future generations of Floridians. Objects or artifacts with intrinsic historic or archaeological value located on, or abandoned on, State-owned lands or State-owned submerged lands belong to the citizens of the State. The Act operates in conjunction with the National Historic Preservation Act of 1966 to require State and Federal agencies to consider the effect of their direct or indirect actions on historic and archaeological resources. These resources cannot be destroyed or altered unless no prudent alternative exists. Unavoidable impacts must be mitigated.

In compliance with MMS NTL 98-20, APC engaged C & C Technologies, Inc. (C&C) to evaluate 3-D seismic data in the preparation of a Shallow Hazards Report, in order to identify and assess the seafloor and shallow geologic conditions along the pipeline route.

The blocks along the pipeline route are not on the MMS list of blocks determined to have a high probability of either prehistoric or historical archaeological resources. Therefore, no archaeological survey or report is required under NTL 2002-G01. It is highly unlikely that objects or artifacts with intrinsic historic or archaeological value would be affected by APC's activities. Therefore, the proposed activities are consistent with the core policies of Chapter 267.

C&C delineated 140 unidentified sonar targets during the route survey. The locations of all unidentified side-scan sonar contacts as well as manmade features will be noted and avoided during the pipeline installation.

8. Chapter 288 – Commercial Development and Capital Improvements

Chapter 288 establishes enforceable policies that promote and develop the general business, trade, and tourism components of the State economy. The policies include requirements to protect and promote the natural, coastal, historical, and cultural tourism assets of the State, foster the development of nature-based tourism and recreation, and upgrade the image of Florida as a quality destination. Natural resource-based tourism and recreational activities are critical sectors of Florida's economy. The needs of the environment must be balanced with the need for growth and economic development.

As APC will be using existing dock and port facilities in the Port Fourchon, Louisiana area and helicopter facilities in Galliano, Louisiana during the proposed operations, there will be no activities conducted in Florida that would affect the general business, trade, or tourism components of the State economy. There will be no project-associated vessel or aircraft traffic in Florida waters, and there are no plans to purchase supplies or equipment in Florida. The project area is at least 214 miles from the nearest Florida shoreline, and activities will not be visible from the coast or Florida State waters. Hydrostatic testing discharges for the proposed activity will be governed by the NPDES General Permit or an Individual Permit; impacts will be localized in deep, offshore waters and will not pollute Florida land or waters. Disposal of trash and debris into the ocean is strictly prohibited, and waste management practices required by MMS under NTL 2003-G11 and Lease Stipulation No. 4 will minimize the chance of trash or debris being lost overboard and subsequently washing up on beaches. Oil spill impacts in Florida coastal areas are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spilland (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies of protecting the natural, coastal, historical, and cultural tourism assets of the State and maintaining the image of Florida as a quality destination. Therefore, the proposed activities are consistent with Chapter 288.

9. Chapter 370 – Saltwater Fisheries

The enforceable policies of this chapter direct the State to conserve and manage its renewable marine fishery resources through the protection and management of marine habitat and saltwater fisheries. The paramount conservation and management objective is the continuing health and abundance of the resource. Best available information must be used to manage and protect the State's marine, crustacean, shellfish, and finfish resources and to regulate the commercial and recreational use of the State's saltwater fisheries to ensure optimum sustained benefits to the people of the State.

Hydrostatic testing discharges will be in compliance with the standards imposed by the NPDES General Permit or an Individual Permit. Water quality is expected to quickly return to normal in the area after operations have been completed. Due to the low toxicity and rapid dispersion of discharges, little or no impact on water column biota is likely, including fish larvae that recruit to nearshore nursery areas.

APC's Sub-Regional OSRP outlines response actions for specific hypothetical spill events. The Sub-Regional OSRP makes provisions for the use of a dispersant by boat or aerial application, but notes that before a dispersant can be applied, Federal and State authorities must grant permission. Additional items that are addressed in the plan include provisions for inspection and maintenance of response equipment; required spill response drills; procedures for spill notification to government agencies; inventories of locally and nationally available response equipment; hierarchy of response team organization; provisions for disposal of wastes; and procedures for monitoring and predicting spill movement. If an oil spill should occur, APC's Sub-Regional OSRP addresses plans and procedures for containment, recovery, and removal. The precautions in APC's plan are consistent with the core policies of conserving and protecting marine habitat and saltwater fisheries and maintaining the continuing health and abundance of the resource. Therefore, APC's proposed activities are consistent with Chapter 370.

10. Chapter 372 – Wildlife

This chapter discusses the "Florida Endangered and Threatened Species Act" and its implementation by the Fish and Wildlife Conservation Commission to conserve and protect the fish and wildlife resources of the State, particularly those species defined as endangered or threatened. The Fish and Wildlife Conservation Commission has established a Wildlife Habitat Program, and a Conservation and Recreation Lands Program Trust Fund, for acquiring and managing lands for the conservation of fish and wildlife. The enforceable policies direct the State to conserve its diverse fish and wildlife resources. Florida has more endangered or threatened species than any other continental state; therefore, the protection of species defined as endangered or threatened is emphasized. State lands that provide habitat needed by these species shall be maintained and enhanced for their value as fish and wildlife habitat. Substances thrown, spilled, drained, or discharged into fresh waters that injure or kill fish are expressly prohibited.

As APC will be using the existing dock and port facilities in the Port Fourchon, Louisiana area and helicopter facilities in Galliano, Louisiana, there will be no new construction, dredging, or filling on Florida's lands or waters to affect wildlife habitats or recreation lands. Hydrostatic testing discharges for the proposed activity will be governed by the NPDES General Permit or an Individual Permit; impacts will be localized in deep, offshore waters and will not pollute Florida land or waters. Disposal of trash and debris into the ocean is strictly prohibited, and waste management practices required by MMS under NTL 2003-G11 and Lease Stipulation No. 4 will minimize the chance of trash or debris being lost overboard and subsequently endangering Florida wildlife. Oil spill impacts in Florida coastal areas are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies of conserving Florida's fish and wildlife resources, including endangered or threatened species. Therefore, the proposed activities are consistent with Chapter 372.

11. Chapter 373 – Water Resources

This chapter establishes enforceable policies that guide the management and protection of water resources, water quality, and environmental quality. The policies address the conservation of surface and ground waters for full beneficial use; sustainable water management; preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians. The State manages and conserves water and related natural resources by determining whether activities will unreasonably consume water, degrade water quality, or adversely affect environmental values such as protected species habitat, recreational pursuits, and marine productivity.

As APC will be using the existing dock and port facilities in the Port Fourchon, Louisiana area and helicopter facilities in Galliano, Louisiana, there will be no usage of Florida water resources and no new construction, dredging, or filling on Florida's lands or waters to affect water quality, protected habitat, recreational pursuits, or marine productivity. Hydrostatic testing discharges for the proposed activity will be governed by the NPDES General Permit or an Individual Permit; impacts will be localized in deep, offshore waters and will not pollute Florida land or waters. In addition, oil spill impacts on Florida water resources are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies of conserving surface and ground waters for full beneficial use and protecting natural resources, fish, wildlife, and public lands. Therefore, the proposed activities are consistent with Chapter 373.

12. Chapter 375 – Outdoor Recreation and Conservation

This chapter discusses the "Outdoor Recreation and Conservation Act of 1963" and the responsibility of the Florida Department of Environmental Protection (FDEP) to implement a comprehensive outdoor recreation plan in cooperation with the Fish and Wildlife Conservation Commission and the water management districts. The FDEP participates in the land and water conservation fund program to acquire lands and water areas for outdoor recreation, natural resource conservation, wildlife and forestry management, and water conservation and control. The Act also empowers the Fish and Wildlife Conservation Commission to regulate motor vehicle access and traffic control on public lands.

APC will be using the existing dock and port facilities in the Port Fourchon, Louisiana area and helicopter facilities in Galliano, Louisiana. Therefore, there will be no new construction, dredging, or filling on Florida's lands or waters, and no new vehicle traffic on public lands. In addition, oil spill impacts on Florida conservation, recreation, or resource areas are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies of preserving Florida's lands and water areas for outdoor recreation, conservation, and wildlife management. Therefore, the proposed activities are consistent with Chapter 375.

13. Chapter 376 – Pollution Discharge Prevention and Removal

Chapter 376 declares that the preservation of the seacoast as a source of public and private recreation and the preservation of water and certain lands are matters of the highest urgency and priority and shall be accomplished by maintaining surface and ground water, coastal waters, estuaries, tidal flats, beaches, and public lands adjoining the seacoast in as close to a pristine condition as possible. The discharge of pollutants into or upon any coastal waters, estuaries, tidal flats, beaches, and lands adjoining the seacoast of the State is declared to be inimical to the paramount interests of the State and is prohibited. The statute provides for hazards and threats of danger and damages resulting from any pollutant discharge to be evaluated, requires the prompt containment and removal of pollution, provides penalties for violations, and ensures the prompt payment of reasonable damages from a discharge. Portions of Chapter 376 serve as a complement to the national contingency plan portions of the Federal Water Pollution Control Act.

APC has prepared a Sub-Regional OSRP as required for the Eastern Planning Area, which must be consistent with the National Contingency Plan, and with the Oil Pollution Act of 1990 (OPA), in order to obtain MMS approval. As APC will be using the existing dock and port facilities in the Port Fourchon, Louisiana area, there will be no transfers between vessels and Florida onshore facilities. As to transfers between offshore facilities and vessels, APC's Sub-Regional OSRP outlines response actions, inspection and maintenance of response equipment, required spill response drills, governmental notification procedures, inventories of response equipment, response team organization, spill movement monitoring, and contingency plans for oil spill containment, recovery, and removal. The precautions in APC's plan are consistent with the core policies of preventing unauthorized pollutant discharges and maintaining surface and ground water, coastal waters, estuaries, tidal flats, beaches, and public lands in as close to a pristine condition as possible. Therefore, the proposed activities are consistent with Chapter 376.

14. Chapter 377 – Energy Resources

The State's policy is to conserve and control the oil and gas resources in the State, including products made from these resources, and to safeguard the health, property, and welfare of Floridians. To accomplish this, Chapter 377 addresses the regulation, planning, and development of the energy resources of the State. The FDEP is authorized to regulate all phases of exploration, drilling, and production of oil, gas, and other petroleum products in the State. This chapter describes the permitting requirements and criteria necessary to drill for and develop oil and gas. FDEP rules ensure that all precautions are taken to prevent the spillage of oil or any other pollutant in all phases of extraction and transportation.

The State explicitly prohibits pollution resulting from drilling and production activities. No person drilling for or producing oil, gas, or other petroleum products may pollute land or water; damage aquatic or marine life, wildlife, birds, or public or private property; or allow any extraneous matter to enter or damage any mineral or freshwater-bearing formation. Penalties for violations of any provisions of this chapter are detailed.

The proposed project does not involve any activities in Florida that are regulated by the FDEP. Hydrostatic testing discharges will be in accordance with the NPDES General Permit or an

Individual Permit; impacts will be localized in deep, offshore waters and will not pollute Florida land or waters, damage wildlife or public or private property, or contaminate any mineral or freshwater-bearing formation. Disposal of trash and debris into the ocean is strictly prohibited, and waste management practices required by MMS under NTL 2003-G11 and Lease Stipulation No. 4 will minimize the chance of trash or debris being lost overboard and subsequently washing up on Florida shorelines or waters. Oil spill impacts in Florida coastal areas are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies of safeguarding the health, property, and welfare of Floridians and preventing pollution during offshore activities. Therefore, the proposed activities are consistent with Chapter 377.

15. Chapter 403 – Environmental Control

Chapter 403 establishes enforceable policies that guide environmental control efforts by conserving State waters, protecting and improving water quality for consumption and for the propagation of fish and wildlife, and maintaining air quality to protect human health and plant and animal life. Statutory provisions are enacted to protect the health, peace, safety, and general welfare of the people of the State. The statute provides wide-ranging authority to address various environmental control concerns, including air and water pollution, resource recovery and management, solid and hazardous waste management, drinking water protection, pollution prevention, ecosystem management, and natural gas transmission pipeline siting. Chapter 403 declares that pollution of the air and waters is a menace to public health and is harmful to wildlife, fish, and other aquatic life; that the policy of the State is to conserve, maintain, and improve its waters and air quality, and to develop a comprehensive program for its prevention, abatement, and control of pollution by establishing ambient air and water quality standards.

Projected air emissions for the proposed activities fall well below allowable exemption levels and will not result in onshore ambient air concentrations above significant levels as prescribed in the regulations. Therefore, the proposed activities are consistent with the core policies of Chapter 403.

Hydrostatic testing discharges shall be in compliance with the standards imposed by the USEPA Region IV NPDES General Permit or an Individual Permit. Discharges from project activities may temporarily affect water quality in the immediate vicinity of the operations, but would not affect water quality or wildlife in Florida State waters. Pollution of coastal waters by an oil spill is highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill; and (2) the distance from shore (approximately 214 miles). The precautions in APC's plan are consistent with the core policies of conserving State waters and protecting water and air quality. Therefore, the proposed activities are consistent with Chapter 403.

16. Chapter 582 – Soil and Water Conservation

The enforceable policies in this chapter require the conservation, development, and use of soil and water resources to preserve natural resources and to control and prevent soil erosion. Soil stabilization preserves State and private lands, protects wildlife habitat, maintains water quality, assists in the maintenance of navigable waterways, and prevents the impairment of dams and reservoirs.

The proposed operations will be conducted offshore Alabama, and at APC's existing dock and port facilities located in the Port Fourchon, Louisiana area and helicopter facilities at Galliano, Louisiana. Routine operations will not involve any construction or other activities in Florida that could result in soil erosion. Oil spill impacts on Florida soils are highly unlikely due to (1) the measures detailed in APC's Sub-Regional OSRP, which addresses procedures for containment, recovery, and removal of an oil spill and (2) the distance from shore (approximately 214 miles). Any cleanup or recovery activities in Florida would be conducted using applicable best management practices to minimize soil erosion. The precautions in APC's plan are consistent with the core policies of preserving Florida's natural resources and preventing soil erosion. Therefore, the proposed activities are consistent with Chapter 582.

CERTIFICATION

The proposed activity complies with the enforceable policies of Florida's approved Coastal Management Program and will be conducted in a manner consistent with such Program.

ANADARKO PETROLEUM CORPORATION

L. Susan Hathcock

L. Susan Hathcock
Regulatory & Environmental Coordinator
May 13, 2005

Enclosure 1

	A	B	C	D	E	F	G
1	**Right-of-Way Pipeline Application**			Segment No.:			
2							
3	Instructions:						
4	1. Complete one form for the pipeline segment submitted in your application. A ROW						
5	application may only contain one proposed pipeline segment.						
6	2. Complete one form for each unattached umbilical submitted in your application.						
7	3. Provide response/data for all items that are shaded. Other items as required.						
8	4. Provide one original and three identical copies of all application materials.						
9							
10	**Pipeline Route Data**						
11	List all blocks and lease numbers contacted by the pipeline. (Insert rows as needed)	**Area**	**Block No.**	**Lease No.**	**Operator**		
12	(If block is unleased, so note.)	LL	399	OCS-G-23480	Anadarko Petroleum Corporation		
13		LL	398	Open			
14		LL	354	OCS-G-23476	Marathon Oil Company		
15		LL	353	Open			
16		AT	393	Open			
17		AT	349	OCS-G-18577	Anadarko Petroleum Company		
18		AT	305	OCS-G-18556	Anadarko Petroleum Company		
19		AT	261	OCS-G-16890	BHP Billiton Petroleum (GOM) Inc.		
20		AT	217	OCS-G-16879	BHP Billiton Petroleum (GOM) Inc.		
21		AT	173	Open			
22		AT	129	OCS-G-20137	Nexen Petroleum U.S.A. Inc.		
23		AT	85	Open			
24		AT	84	OCS-G-16859	BHP Billiton Petroleum (GOM) Inc.		
25		AT	41	Open			
26		AT	40	OCS-G-20131	Woodside Energy (USA) Inc.		
27		AT	39	OCS-G-24211	Devon Louisiana Corporation		
28		MC	1008	OCS-G-20017	Woodside Energy (USA) Inc.		
29		MC	1007	OCS-G-20016	Devon Louisiana Corporation		
30		MC	963	Open			
31		MC	964	Open			
32		MC	920	Open			
33	**Contact Information**						
34	Applicant company name (ROW permittee/holder)	Anadarko Petroleum Corporation					
35	Name of company representative signing application	Charles G. Hughes					
36	Phone No.	832-636-8715					
37	Fax	832-636-8208					
38	E-Mail	charles_hughes@anadarko.com					
39	Mailing address	1201 Lake Robbins Drive					
40		The Woodlands, TX 77380					
41	ROW holder's MMS code (five digit)	00981					
42							
43	Designated operator company name	Anadarko Petroleum Corporation					
44	Phone No.	832-636-8758					
45	Fax	832-636-8208					
46	E-Mail	susan_hathcock@anadarko.com					
47	Mailing address	1201 Lake Robbins Drive					
48		The Woodlands, TX 77380					
49	Operator's MMS code (five digit)	00981					
50							

	A	B	C	D	E	F	G
51	Regulatory contact (Name)	Susan Hathcock					
52	Company name	Anadarko Petroleum Corporation					
53	Phone No.	832-636-8758					
54	Fax	832-636-8208					
55	E-Mail	susan_hathcock@anadarko.com					
56							
57	Technical contact (Name)	Dwayne Doiron					
58	Company name	Cypress Consulting					
59	Phone No.	713-816-0247					
60	Fax	281-955-2664					
61	E-Mail	doirond@cc-lc.net					
62							
63	**Fees**						
64	Application fee of $2,350 enclosed? (Required)	Yes					
65	ental fee of $15 per mile or every fraction thereof enclosed? (Required)	Yes					
66	ight-of-way length (miles) e.g., 7.54	44.84					
67	Total check amount	$5,725.00					
68	Check date	5/9/2005					
69	Check number	757082					
70	Name of financial institution upon which check is written	Mellon Bank N.A.					
71							
72	**Basic Pipeline Data**						
73	Line service, e.g., oil, gas, bulk gas, lift, injection, service, etc.	Bulk Gas					
74	Total pipeline length (feet) - excluding riser(s)	236,767					
75	Length of pipeline in Federal waters (feet)	236,767					
76	Length of pipeline in State waters (feet/NA)	NA					
77	Pipeline designed for bi-directional flow? (Y/N)						
78	Alternate line service, e.g., oil, gas, bulk gas, lift, injection, service, etc.	Yes					
79	Supervisor Control and Data Acquisition system for leak detection installed? (Y/N)	yes					
80	If yes, system type, e.g., over/short, pressure point analysis, volumetric, etc.	ppa					
81							
82	**Pipeline Origin**						
83	Type Facility, e.g., Platform, Well, Subsea Well, PLEM, Subsea Manifold, Subsea Tie-in	PLET					
84	Number/Identifier, e.g. A, 1, 4-B, 13336 (Number/Segment Number/Identifier/NA)	NA					
85	Manned platform? (Y/N/NA)	No					
86	rea	Lloyd Ridge					
87	lock	399					
88	OCS Lease	OCS-G-23480					
89	Pig launcher? (Y/N)	No					
90	System designed for "smart" pigs? (Y/N/NA)	No					
91							
92	**Pipeline Destination**						
93	Type Facility, e.g., Platform, Well, Subsea Well, PLEM, Subsea Manifold, Subsea Tie-in	Platform					
94	Number/Identifier, e.g. A, 1, 4-B (Number/Segment Number/Identifier/NA)	Proposed					
95	Manned platform? (Y/N/NA)	Yes					
96	Area	Mississippi Canyon					
97	Block	920					
98	OCS Lease	Open					
99	Pig receiver? (Y/N/NA)	No					
100							
101	**Pipeline Appurtenances**						

	A	B	C	D	E	F	G
102	Manifold/subsea templates/etc. along pipeline other than at origin or destination? (Y/N)	No					
103	If yes, specify appurtenant type						
104	If yes, specify appurtenant area and block location, e.g., MP 134						
105							
106	**Construction/Air Quality Data**						
107	Pipeline installation method, e.g., lay barge, DP vessel, jack up	DP Vessel					
108	Maximum anchor spread (feet or NA)	NA					
109	Onshore Facility Location	Fourchon					
110	Pipeline construction duration (days)	21					
111	Construction start date (projected)	11/1/2005					
112							
113	**Pipeline product data**						
114	Design maximum flow rate of gas (mmcf/d)	210					
115	Gravity of gas (Air = 1.0)	0.65					
116	Design maximum flow rate of oil/condensate (b/d)	NA					
117	API or specific gravity of oil/condensate	32.1					
118	H_2S concentration (ppm)	0					
119	Maximum anticipated pipeline temperature (degrees F)	140					
120	CO_2 concentration (ppm)						
121	Inhibition program planned? (Y/N)						
122	Hydrates anticipated (Y/N)						
123	Paraffin anticipated (Y/N)						
124							
125	**Submerged Component Design Data**	**Diameter 1**	**Diameter 2**	**Diameter 3**			
126	Outside diameter (inches)	8 5/8	10 3/4				
127	Wall thickness (inches)	0.675	0.862				
128	Grade	API-5L X65	API-5L X65				
129	Hydrostatic test pressure (psig)	9100 (refer to application)	9100 (refer to application)				
130	HTP duration (hours) (Must be equal to or greater than eight)	8	8				
131	Type external corrosion coating	Fusion Bonded Epoxy	Fusion Bonded Epoxy				
132	Corrosion coating thickness (mils)	18	18				
133	Concrete coating density (pcf)	NA	NA				
134	Coating thickness (inches)	NA	NA				
135	Type internal corrosion coating (Type/NA)	NA	NA				
136	Coating thickness (mils) (Mils/NA)	NA	NA				
137	Bare pipe specific gravity	2.21	2.26				
138	Weighted pipe specific gravity	2.21	2.26				
139	Pipe is non-standard? (Y/N)	NA	NA				
140	If yes, note type, e.g., coil tubing, pipe-in-pipe, flexible pipe, other (specify) (Type/NA)						
141							
142	**Cathodic Protection Design Data**						
143	Design Type, e.g., bracelet anodes, anode sleds	Bracelet Anodes	Bracelet Anodes				
144	Anode Type, e.g. Galvalum III, Aluminum, etc.	Aluminum	Aluminum				
145	Net anode weight (pounds)	72.7	91				
146	Spacing (feet)	480	480				
147	Number of anodes	291	291				
148	Anode life (years)	90.4	91.6				
149	Designs for systems other than bracelet anodes required. (Attached/NA)	NA	NA				
150							
151							
152	**Departing Riser Design Data**	**Diameter 1**	**Diameter 2**	**Diameter 3**			
153	Outside diameter (inches)	NA					

	A	B	C	D	E	F	G
154	Wall thickness (inches)	NA					
155	Grade	NA					
156	Hydrostatic test pressure (psig)	NA					
157	HTP duration (hours) (Must be equal to or greater than eight)	Na					
158	splash zone=S.Z.	**Below S.Z.**	**In S.Z.**	**Above S.Z.**			
159	Type external corrosion coating	NA					
160	Coating thickness (mils or inches)	NA					
161	Type internal corrosion coating (Type/NA)	NA					
162	Coating thickness (mils) (Mils/NA)	NA					
163	Riser guard design attached? Required if origin is caisson or platform (Y/NA)	NA					
164	Catenary riser? (Y/N)	NA					
165	If yes, VIV reduction, installation tension, anchoring, tension monitoring attached? (Y/NA)	NA					
166							
167	**Receiving Riser Design Data**	**Diameter 1**	**Diameter 2**	**Diameter 3**			
168	Outside diameter (inches)	10 3/4					
169	Wall thickness (inches)	1.18					
170	Grade	API-5L X65					
171	Hydrostatic test pressure (psig)	9100 (refer to application)					
172	HTP duration (hours) (Must be equal to or greater than eight)	8					
173	splash zone=S.Z.	**Below S.Z.**	**In S.Z.**	**Above S.Z.**			
174	Type external corrosion coating	Fusion Bonded Epoxy					
175	Coating thickness (mils or inches)	18					
176	Type internal corrosion coating (Type/NA)	NA					
177	Coating thickness (mils) (Mils/NA)	NA					
178	Riser guard design attached? Required if origin is caisson or platform (Y/NA)	NA					
179	Catenary riser? (Y/N)	Yes					
180	If yes, VIV reduction, installation tension, anchoring, tension monitoring attached? (Y/NA)	Yes					
181							
182	**Flange and Valve Data**						
183	Flange type (ANSI/API)	API					
184	Flange pressure rating (psig)	10,000					
185	Derated pressure rating (psig/NA)	10,000					
186	Valve type (ANSI/API)	API					
187	Valve pressure rating (psig)	10,000					
188	Derated pressure rating (psig/NA)	10,000					
189							
190	**Pipeline Burial Data**						
191	Bury minimum of three feet? Y/N/Self (Burial required if less than 200' water depth)	N					
192	Burial method (jet, plow, self, other(specify))	NA					
193	If self burial, provide seafloor strength in ksf. (Must be less than 0.2 ksf) (kips/NA)	NA					
194	Data supporting self burial attached? (Y/NA)	NA					
195							
196	**Miscellaneous Data**						
197	Non-discrimination in employment form attached? (Required)	Yes					
198							
199	**Oil Spill Financial Responsibility Requirement Determination**						
200	Static Pipeline Volume (Bbls.) If greater than 1,000 then WCD volume required.	18926					
201	Worst case discharge volume (Bbls.) If greater than 1,000 then OSFR required.	6					
202	Proposed Right-of-Way included under company OSFR coverage? (Yes/Pending/NA)	Yes					
203							
204	Certified plat attached? Plat is required.	Yes					
205	Diskette per NTL 98-09 attached? Diskette is required.	Yes					

	A	B	C	D	E	F	G
206							
207	Does pipeline cross into State waters (Y/N)						
208	If yes, State permit required (Attached/Applied For/NA)	NA					
209	If yes, COE permit required (Attached/Applied For/NA)	NA					
210							
211	Minimum water depth (feet below sea level)	7913					
212	Maximum water depth (feet below sea level)	8961					
213							
214	Water depth greater than 400 meters? (Y/N)	Yes					
215	If Yes, Chemo study required (see NTL 2000-G20) (Attached/NA)	Attached					
216							
217	Deep Water Operations Plan submitted to MMS? (See NTL 2000-N06) (Y/NA)	Pending submittal					
218	If yes, date submitted (Date/NA)						
219							
220	Pipeline to be towed to location? (Y/N)	No					
221	yes, dragged on bottom? (Y/N/NA)	NA					
222							
223	Artificial reef in vicinity? (Y/N)	N					
224	If Yes and PL in La., PL must be > 500' away. Confirm Y/NA	NA					
225	Distance to reef (feet).	NA					
226	If Yes and PL in TX., PL must be > seven times water depth away. Confirm Y/NA	NA					
227	Distance to reef (feet).	NA					
228							
229	Hazard Report submitted? (Yes) Hazard Report is required	Yes					
230							
231	Shallow Hazards Analysis Statement included? (Yes) SHAS is required in cover letter	Yes					
232							
233	Umbilical associated with pipeline? (Y/N)	Yes					
234	Umbilical type, e.g., hydraulic, electric, other(specify) (Type or NA)	Electric/Hydraulic					
235	Umbilical outside diameter (inches) (Diameter or NA)	6.18					
236	Attached to pipeline? (Y/N/NA; If No, will be assigned a unique segment number)	Yes					
237	If no, separate application form attached? (Yes/NA)						
238							
239	Does pipeline contact anchorage area or fairways? (Y/N)	No					
240	If Yes, burial depth in anchorage areas or fairways consistent with COE permit? (Y/NA)	NA					
241	If yes, COE permit attached? (Y/NA/Pending)	NA					
242							
243	**line Crossing Data**						
244	Does proposed pipeline cross an existing pipeline (Y/N)	No					
245	If yes, enter noted data, adding data rows as required.	**Operator**	**Segment No.**	**Size (inches)**	**Service**	**Notified?**	
246							
247							
248							
249							
250	If yes, minimum clearance between lines must be 18". (Yes/NA)	NA					
251	If yes and < 500' water depth, must have 3' cover or concrete mats. (Confirm cover or concrete mat.)	NA					
252	If sand bags, slope is 3/1. (Confirm Yes/NA)	NA					
253	If concrete mat, specify manufacturer	NA					
254	If concrete mats, mat edges jetted below mudline. (Yes/NA)	NA					
255	Crossed pipeline operator notified? (Y/N/O O = crossed pipeline owned by applicant)	NA					
256							

	A	B	C	D	E	F	G
257	**H_2S Contingency Plan and Modeling Data**						
258	H_2S Operations Contingency Plan attached as H_2S concentration greater than 20 ppm (Y/Pending/NA)	NA					
259	Air Dispersion Model attached as H_2S concentration greater than 500 ppm (Y/pending/NA)	NA					
260	H_2S Crossing Contingency Plan attached as crossed pipeline carries H_2S in concentrations greater than 20 ppm (Y/Pending/NA)	NA					
261							
262	**Subsea Tie-in Data**						
263	Does pipeline tie into a subsea pipeline? (Y/N)	No					
264	Ties to existing valve or hot tap? (Identify which/NA)	NA					
265	Segment number of pipeline being tied in to (SN/NA)	NA					
266	MAOP of pipeline being tied in to (MAOP/NA)	NA					
267	If existing valve, letter of no objection from tie-in operator attached? (Yes/NA)	NA					
268	If hot tap, appurtenance application submitted to MMS? (Yes/NA)	NA					
269	assembly snag proofed? (Y/NA) Required if less than 500' water depth.	NA					
270	If sand bags used, slope is 3/1 (Y/NA)	NA					
271	If sand bags used, 3' coverage required (Y/NA)	NA					
272							
273	**Surface Tie-in Data**						
274	Does pipeline tie directly into another pipeline at a surface location? (Y/N)	No					
275	Segment number of pipeline being tied in to (SN/NA)	NA					
276	MAOP of pipeline being tied in to (MAOP/NA)	NA					
277							
278	**Spill Response Plan Data**						
279	Type of spill response plan (OSCP/OSRP per NTL 98-30)	OSRP					
280	Date spill plan submitted to MMS						
281	Date spill plan approved (Actual Date or "Pending")	8/10/2004					
282							
283	**Safety Schematic Information**						
284	Pressure source identified? (well, separator, pump, etc.)	Wells					
285	MSP/MAWP/SITP of source shown? (psig)	8,100					
286	Origin/destination specification breaks shown on schematic. (Y/NA)	Yes					
287	Receiving segment number noted? (Segment Number or N/A)	NA					
288	Receiving segment no. MAOP (psig) (MAOP or N/A)	NA					
289	Calculated pipeline MAOP (psig)	Varies-refer to application					
290	ator responsibility transfer point shown? (Yes/NA)	NA					
291							
292	**Collapse Information (Deepwater Pipelines Only)**						
293	Water depth (feet)	8080					
294	External pressure (psig)	3591					
295	Collapse pressure (psig)	9658					
296	Safety factor	2.69					
297	Collapse calculations are required. (Attached/NA)	Attached					
298							
299	**Safety Design Review**						
300	**Pipeline Origin**						
301	PSHL required at departing end of pipeline (Confirm Yes)	Yes					
302	PSHL must be downstream of choke and/or flow restrictions (Confirm Yes)	Yes					
303	For a well, if MSP > MAOP, a redundant PSH and independent SDVs required (Confirm Yes)	NA					

	A	B	C	D	E	F	G
304	For production equipment, if MSP > MAOP, a redundant PSH with independent SDV is required or a vented PSV is required (Confirm Yes/NA)	NA					
305	If bi-directional flow, SDV required (Confirm Yes/NA)	Yes					
306	If pig trap present, safety equipment can not be bypassed (Confirm True)	NA					
307	If pump on line, must be consistent with API RP 14C A7 (Confirm Yes/NA)	NA					
308	**Pipeline Destination**						
309	If production facility and uni-directional flow, SDV and FSV required (Confirm Yes/NA)	NA					
310	If production facility and bi-directional flow, SDV and PSHL required (Confirm Yes/NA)	Yes					
311	If subsea tie-in and uni-directional flow, FSV and block valve required (Confirm Yes/NA)	NA					
312	If subsea tie-in and bi-directional flow, block valve required (Confirm Yes/NA)	NA					
313	If gas lift or water injection flowline on unmanned platform, FSV required (Confirm Yes/NA)	NA					
314	If gas lift or water injection flowline on manned platform, SDV required (Confirm Yes/NA)	NA					
315	If crossover platform (pipeline does not receive production), SDV required at boarding point and PSHL required at departing point (Confirm Yes/NA)	NA					
316	If crossover platform is non-manned and non-production, FSV required (Confirm Yes/NA)	NA					
317							
318	**Departure Data**						
319	Waiver from NTL 98-20 (buoying of hazards) requested? (Y/N)	Yes					
320	Other departures requested? (Y/N)	Yes					
321	If yes, specify.	API 1111 For Collapse Resistance Waive magnetometer for >600' WD					
322							
323							
324							
325							
326							
327							
328							
329							
330							
331							
332	**Do Not Enter Data Below This Line -** **MMS Use Only**						
333							
334	**PIPELINE MASTER ENTRY SHEET**						
335	Name		MMS Engineer entry				
336	e		MMS Engineer entry				
337	gment Number		MMS Engineer entry				
338	Right-of-Way Number		MMS Engineer entry				
339	Right-of-Way Permittee						
340	Right-of-Way Permittee Code						
341	Operator	Anadarko Petroleum Corporation					
342	Operator Code	00981					
343	Approval Code	Right-of-Way					
344	Authority Code		MMS Engineer entry				
345	Pipe Size	8 5/8					
346	Product Code		MMS Engineer entry				
347							
348	ORIGIN						
349	Facility Type	PLET					
350	Identifier	NA					
351	Area	Lloyd Ridge					

	A	B	C	D	E	F	G
352	Block	399					
353	Lease	OCS-G-23480					
354							
355	DESTINATION						
356	Facility Type	Platform					
357	Identifier	Proposed					
358	Area	Mississippi Canyon					
359	Block	920					
360	Lease	Open					
361							
362	OCS Segment Length	236,767					
363	State + Federal Pipeline Length	236,767					
364	Cathodic Code	Aluminum					
365	Cathodic Life Time (Years)		MMS Engineer entry				
366	Minimum Water Depth (feet)	7913					
367	imum Water Depth (feet)	8961					
368							
369	Buried Designator Flag	N					
370	Bi-directional Flag	0					
371	Alternate Service	Yes					
372	Recv Segment No. (Sub-surface)	NA					
373	Recv MAOP	NA					
374	Assigned MAOP		MMS Engineer entry				
375	Pipeline Status Code	Proposed					
376	Right-of-Way Status Code	Pending					
377							
378	Comments		MMS Engineer entry				